insurance records. Address locations of VA facilities are listed in VA Appendix 1 at the end of this document.

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2. In the system identified as 46VA00, "Veterans, Beneficiaries, and Attorneys United States Government Insurance Award Records-VA" on page 727 of the Privacy Act Issuances, 1984 Compilation, Vol. V, and amended at 50 FR 13448 (April 4, 1985), the system notice is revised as follows:

46VA00

SYSTEM NAME:

Veterans, Beneficiaries, and Attorneys United States Government Insurance Award Records—VA.

SYSTEM LOCATION:

Active records are located at the VA Regional Office and Insurance Centers in Philadelphia, Pennsylvania, and St. Paul, Minnesota. Inactive records are stored at various servicing Federal Archives and Records Centers and at the VA Records Processing Center in St. Louis, Missouri. Some pre-1968 records pertaining to beneficiaries of deceased veterans may be maintained in regional offices. Information from these files is also maintained in automated files at the VA Data Processing Centers in Philadelphia, Pennsylvania, and St. Paul, Minnesota. Information from the automated files in Philadelphia is available to all VA Regional Offices, except Manila, Philippines, through the ITS (Insurance Terminal System) which provides direct access to the records via video display terminals. Duplicate copies of certain manual and automated files are maintained at other locations in accordance with Federal and VA policy on security and vital records. Address locations of VA facilities are listed in VA Appendix 1 at the end of this document.

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POLICIES AND PRACTICES FOR STORING, RETRIEVING, ACCESSING, RETAINING, AND DISPOSING OF RECORDS IN THE SYSTEM

* * * * *

SAFEGUARDS:

1. *Physical Security:* a. All VA facilities are protected outside access by the Federal Protective Service or other security personnel. All file areas are restricted to authorized personnel on a need-to-know basis. Areas containing paper records are protected by a sprinkler system. Paper records pertaining to employees and public figures, or otherwise sensitive files, are stored in locked files. Microfilm records are stored in a locked fireproof, humidity-controlled vault. Automated records which are not in use at the data processing centers are stored in secured, locked vault areas.

b. Access to VA data processing centers is restricted to center employees, custodial personnel, and Federal Protective Service or other security personnel. Access to computer rooms is restricted to authorized operational personnel through electronic locking devices. All other persons gaining access to computer rooms are escorted by an individual with authorized access.

c. At Regional Offices and the Regional Office and Insurance Centers the video display terminals on the ITS (Insurance Terminal System) are protected by key locks, magnetic access card readers, and audible alarms. Electronic keyboard locks are activated on security errors. A security officer at each facility is assigned responsibility for privacy-security measures, including review of violations logs and local control and distribution of passwords and magnetic access cards.

2. *System Security.* a. At the data processing centers, identification of magnetic tapes and disks containing data is rigidly enforced using manual and automated labeling techniques. Access to computer programs is controlled at three levels: programming, auditing, and operations.

b. The ITS (Insurance Terminal System) uses the VA data telecommunications terminal system known as the Target System which provides computerized access control for security purposes. This system provides automated recognition of authorized users and their respective access levels/restrictions through passwords and magnetic access cards. Passwords are changed periodically and are restricted to authorized individuals on a need-to-know basis for system access or security purposes.

RETENTION AND DISPOSAL:

Records are retained and disposed of in accordance with disposition authorization approved by the Archivist of the United States. The primary record, the insurance folder, is retained at the VA Regional Office and Insurance Center until it has been inactive for 36 months; at which time it is retired to a servicing Federal Archives and Records Center for 50 years retention and destroyed.

* * * * *

NOTIFICATION PROCEDURE:

Any individual who wishes to determine whether a record is being maintained in this system under his or her name or other personal identifier, or who has a routine inquiry concerning the status of his or her insurance under this system may contact the nearest VA Regional Office. Requests concerning the specific content of a record must be in writing or in person to the VA Regional Office and Insurance Center at Philadelphia, Pennsylvania, or St. Paul, Minnesota, where the insurance folder is maintained. The inquirer should provide full name of the veteran, insurance file number, and date of birth. If insurance file number is not available, the social security number, service number, VA claim number, and/or location of insurance records will aid VA personnel in locating official insurance records. Address locations of VA facilities are listed in VA Appendix 1 at the end of this document.

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[FR Doc. 85-28948 Filed 12-5-85; 8:45 am]

BILLING CODE 8320-01-M

Sunshine Act Meetings

Federal Register
Vol. 50, No. 235
Friday, December 6, 1985

This section of the FEDERAL REGISTER contains notices of meetings published under the "Government in the Sunshine Act" (Pub. L. 94-409) 5 U.S.C. 552b(e)(3).

CONTENTS

1

COMMISSION ON CIVIL RIGHTS

PLACE: 1121 Vermont Avenue, NW., Room 512, Washington, DC.

DATE AND TIME: Tuesday, December 10, 1985, 9:00 a.m.–5:00 p.m.

STATUS: Open to public.

MATTERS TO BE CONSIDERED:

I. Approval Agenda
II. Approval of Minutes of Last Meeting
III. Staff Director's Report
  A. Status of Funds
  B. Personnel Report
  C. Office Director Reports'
IV. Presentation by Dr. Gary Orfield, Former Consultant to the School Desegregation Project
V. Proposed Regulations for the U.S. Commission on Civil Rights Under Section 504 of the Rehabilitation Act of 1973
VI. Discussion of Project Design for the Commission Hearing on Indian Tribal Justice
VII. Civil Rights Developments in the Western Region

FOR FURTHER INFORMATION PLEASE CONTACT: Barbara Brooks, Press and Communications Division, (202) 376-8314.

Lawrence B. Glick,
Solicitor.
December 4, 1985.

[FR Doc. 85-29148 Filed 12-4-85; 3:40 pm]
BILLING CODE 6335-01-M

2

FEDERAL DEPOSIT INSURANCE CORPORATION

Change in Subject Matter of Agency Meeting

Pursuant to the provisions of subsection (e)(2) of the "Government in the Sunshine Act" (5 U.S.C. 552b(e)(2)), notice is hereby given that at its closed meeting held at 2:30 p.m. on Monday, December 2, 1985, the Corporation's Board of Directors determined, on motion of Chairman L. William Seidman, seconded by Director Irvine H. Sprague (Appointive), concurred in by Director Robert L. Clarke (Comptroller of the Currency), that Corporation business required the withdrawal from the agenda for consideration at the meeting, on less than seven days' notice to the public, of a memorandum regarding the Corporation's liquidation and receivership activities.

The Board further determined, by the same majority vote, that no earlier notice of the change in the subject matter of the meeting was practicable.

Dated: December 3, 1985.

Federal Deposit Insurance Corporation.

Hoyle L. Robinson,
Executive Secretary.
[FR doc. 85-29076 Filed 12-4-85; 11:28 am]
BILLING CODE 6714-01-M

3

FEDERAL HOME LOAN MORTGAGE CORPORATION

DATE AND TIME: Monday, December 9, 1985, 1:00 p.m.

PLACE: 1776 G Street, NW., Washington, DC Conference Room 8C.

STATUS: Closed.

CONTACT PERSON FOR MORE INFORMATION: Alan B. Hausman, 1776 G Street, NW., P.O. Box 37248, Washington, DC 20013 (202) 789-5097.

MATTERS TO BE CONSIDERED:

Closed: Minutes of October 11, 1985 and November 3, 1985 Board of Directors' Meetings
Closed: President's Report
Closed: 1986 Plan and Budget
Closed: Financial Report

Date sent to Federal Register: December 4, 1985.

Maud Mater,
Secretary.
[FR Doc. 85-29115 Filed 12-4-85; 3:21 pm]
BILLING CODE 6720-02-M

4

FEDERAL MINE SAFETY AND HEALTH REVIEW COMMISSION

December 3, 1985.

TIME AND DATE: 10:00 a.m., Wednesday, December 11, 1985.

PLACE: Room 600, 1730 K Street, NW., Washington, DC.

STATUS: Closed (Pursuant to 5 U.S.C. 552b(c)(10)).

MATTERS TO BE CONSIDERED: The Commission will consider and act upon the following:

1. The NACCO Mining Company, Docket No. LAKE 85-87-R, (Consideration of a request for reconsideration).
2. Secretary of Labor ex rel. Ronnie D. Beavers, et al. v. Kitt Energy Corporation, Docket No. WEVA 85-73-D. (Inquiry as to whether an ex parte communication may have already occurred).
3. Local Union 1609, District 2, UMWA v. Greenwich Collieries, Docket No. PENN 84-158-C. (Consideration of procedural motions).

It was determined by a unanimous vote of Commissioners that this meeting be closed.

CONTACT PERSON FOR MORE INFORMATION: Jean Ellen (202) 653-5629.

Jean H. Ellen,
Agenda Clerk.
[FR Doc. 85-29124 Filed 12-4-85; 1:05 pm]
BILLING CODE 6735-01-M

Friday
December 6, 1985

Part II

Department of Health and Human Services

Social Security Administration

20 CFR Part 404

Federal Old-Age, Survivors, and Disability Insurance; Revised Medical Criteria for the Determination of Disability; Final Rule

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Social Security Administration

20 CFR Part 404

[Regulation No. 4]

Federal Old-Age, Survivors, and Disability Insurance; Revised Medical Criteria for the Determination of Disability

AGENCY: Social Security Administration, HHS.

ACTION: Final rules.

SUMMARY: These amendments revise the medical evaluation criteria for both the title II and title XVI disability programs. These criteria were last revised in 1979 (except for mental disorders listings). The revisions reflect advances in the medical treatment of some conditions and in the methods of evaluating certain impairments. These rules will provide up-to-date medical criteria for use in the evaluation of disability claims.

DATES: These regulations are effective January 6, 1986. Because of the number of disability regulations that have been recently issued, we want to be sure that the State disability determination services have adequate time to conduct training on these regulations before they become effective. Therefore, in this instance we are delaying the effective date for thirty days. For the reasons given below, we will consider additional comments if we receive them no later than January 6, 1986.

ADDRESSES: Send your written comments to the Commissioner of Social Security, Department of Health and Human Services, P.O. Box 1585, Baltimore, Maryland 21203, or deliver them to the Office of Regulations, Social Security Administration, 3–B–4 Operations Building, 6401 Security Boulevard, Baltimore, Maryland 21235, between 8:00 a.m. and 4:30 p.m. on regular business days. Comments received may be inspected during these same hours by making arrangements with the contact person shown below.

FOR FURTHER INFORMATION CONTACT: William J. Ziegler, Legal Assistant, Office of Regulations, Social Security Administration, 6401 Security Boulevard, Baltimore, Maryland 21235, telephone 301–594–7415.

SUPPLEMENTARY INFORMATION:

The Programs

The Social Security Act (the Act) provides, under title II, for the payment of Federal disability insurance benefits to disabled individuals insured under the Act. The Act also provides, in title XVI, for the payment of benefits under the Supplemental Security Income program to persons who are blind or disabled and have limited income and resources. Under both programs, blindness means a central visual acuity of 20/200 or less in the better eye with use of a correcting lens. An eye which is accompanied by a limitation in the field of vision so that the widest diameter of visual field subtends an angle no greater than 20 degrees shall be considered as having a central visual acuity of 20/200 or less. Disability under both programs means the inability to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or which has lasted or can be expected to last for a continuous period of at least 12 months.

The Listing of Impairments

The medical criteria for evaluating disability and blindness without considering vocational factors are found in the Listing of Impairments (the Listing). From the beginning of the disability program in 1955, there has been an established list of medical impairments which, in and of themselves, are considered sufficient to preclude any gainful activity, absent evidence to the contrary. The original Listing was based upon advice from a national group of medical advisors and, in part, the experience of other agencies administering disability programs. As the Social Security Administration gained experience in evaluating disability claims, the Listing was periodically reviewed and revised as appropriate. Changes in the Social Security law also have affected the Listing.

In 1968, after over a decade of operating experience, the Listing was revised and incorporated into the regulations as an appendix to Subpart P of Part 404. This appendix is presently divided into a Part A and a Part B. The criteria in Part A apply mainly to evaluating impairments of adults but may be appropriate in some cases to evaluating impairments in children under age 18. Part B of Appendix 1 contains medical criteria for the evaluation of impairments of children under age 18 where criteria in Part A do not give appropriate consideration to the particular disease processes in childhood. Part B was initially included in Appendix 1 of Subpart I of Part 416 in 1977, subsequent to the enactment of the Supplemental Security Income Program. While Part B applies mainly to claims under title XVI, it also applies in evaluating some claims under the title II disability insurance program.

In 1979, the Listing was updated again to reflect advances in the medical treatment of some conditions and in the methods of evaluating certain impairments. These revised rules were published in the **Federal Register** (44 FR 18170) on March 27, 1979. Until 1980, the Listing was contained in the regulations as an appendix to Subpart P of Part 404 (title II disability program) and also as an appendix to Subpart I of Part 416 (title XVI disability program). In recodifying these subparts in 1980, we took the medical criteria used in making disability determinations out of Part 416 and placed them only in Appendix 1 of Subpart P of Part 404. This was done to eliminate repetition in our regulations, since the same medical criteria generally apply to both the title II and title XVI disability programs. In view of the fact that Parts 404 and 416 are both published in Chapter III (Parts 400 to 499) of title 20 of the Code of Federal Regulations (CFR), this material is available to everyone in one volume of the CFR. This recodification was published in the **Federal Register** (45 FR 55566) on August 20, 1980. Another Notice of Proposed Rule Making pertaining to proposed revisions to the "12.00 Mental Disorders" was published in the **Federal Register** (50 FR 4948) on February 4, 1985. We carefully evaluated all the comments we received and final regulations were published in the **Federal Register** (50 FR 35038) on August 28, 1985. These amendments reflected advances in medical treatment and in methods of evaluating mental impairments.

These current amendments were published as a Notice of Proposed Rule Making in the **Federal Register** (47 FR 19620) on May 6, 1982. Interested persons, organizations, and groups were invited to submit data, views or arguments pertaining to the proposed amendments within a period of 60 days from the date of publication of the notice. The comment period ended on July 6, 1982. After carefully considering all the comments submitted, the proposed amendments are being adopted with some modifications, which will be explained later in this preamble. We will also reply to the many issues raised in the comments we received.

Our objective in publishing these amendments is to provide up-to-date medical criteria for the use in the evaluation of Social Security disability and blindness claims. However, this is an ongoing process because of the dynamic nature of diagnosis, evaluation, and treatment of impairments.

Therefore, should you have any recommendations on how we can continue to refine these medical criteria so they remain up-to-date, please do so in the 30-day comment period. Your comments will be considered for the purpose of initiating future revisions to the medical criteria.

The Listing includes medical conditions frequently diagnosed for people who file for disability benefits. It describes, for each of the 13 major body systems, impairments that are severe enough to prevent a person from doing gainful activity. Most of the listed impairments are permanent or are expected to result in death, or a specific statement of duration is made. The evidence must show that the impairment has lasted or can be expected to last for a continuous period of not less than 12 months.

Purpose of the Listing

Using the Listing should assure that our disability determinations have a sound medical basis, that we will be able to treat equally all persons applying for disability benefits who are similarly situated, and that we will be able to readily identify those persons who are unable to do any gainful activity. The Listing sets out medical impairments which, in and of themselves, are considered severe enough to preclude gainful work, absent evidence to the contrary. Thus, if a person's impairment or combination of impairments meets or exceeds the level of severity described in the Listing, we find that he or she is disabled solely on the basis of the medical facts, unless we have evidence to the contrary; for example, evidence that the person is actually doing substantial gainful activity.

The Listing does not include all impairments. An unlisted impairment or impairments may be determined to be medically equivalent to an impairment contained in the Listing.

How We Use the Listing

Since the Listing contains the medical criteria we use for evaluating disability, it is an essential tool in the disability evaluation process. In determining whether or not a person's impairment constitutes a disability, we normally follow a sequential evaluation process. We do not go through this sequence for title II claims of widow(er)s, or Supplemental Security Income claims of children under age 18. This process consists of five steps as follows:

(1) If the person is actually doing substantial gainful activity, we determine that he or she is not disabled, no matter how severe his or her impairment(s) may be.

(2) If a person does not have any impairment(s) which significantly limits his or her physical or mental capacity to perform basic work-related functions, we determine that he or she does not have a severe impairment and is not disabled, without considering the person's age, education and work experience.

(3) If a person has an impairment(s) that is described in the Listing or has one or more impairments medically equal to one of the listed impairments (and meets the duration requirement) and is not actually engaging in substantial gainful activity, we determine, without considering his or her age, education and work experience, that the person is disabled.

(4) If a person has a severe impairment which does not meet or medically equal any of the listed impairments and is not actually doing substantial gainful activity, we evaluate the person's residual functional capacity and consider the physical and mental demands of his or her past work. If we find that the person can do his or her past work, we determine that the person is not disabled.

(5) If a person cannot do any work that he or she did in the past because of a severe impairment(s), but has the remaining physical and mental capacities to meet the demands of other jobs that exist in significant numbers in the national economy, we determine that the person is not disabled. To make this determination, we consider, in addition to the impairment(s), the person's age, education, and work experience, including the presence of any acquired work skills that can be transferred to other jobs. If, however, the person's physical or mental capacities, together with the factors of age, education, and work experience, do not permit an adjustment to work different from work the person did in the past, we determine that the person is disabled.

Consultative Examinations

When necessary, we obtain additional medical findings to resolve the issue of medical severity. We obtain these medical findings by the use of consultative medical examiners at no expense to the applicant. It is not practicable, however, to obtain some types of findings by such a medical examination, either because hospitalization is required or because it is questionable whether an individual should be required to undergo a highly specialized procedure for the sole purpose of disability evaluation. However, many tests of this type are frequently used during the ordinary course of medical treatment and, when available, are of great value in the evaluation of disability. Therefore, while several tests of this type are mentioned in the medical criteria, in each case they are accompanied by a statement that they should be obtained independently of the Social Security disability evaluation process since we will accept this evidence, if available, but will not request that an individual undergo those tests.

Study of the Disability Program

On June 7, 1983, the Secretary announced a top-to-bottom review of all disability program standards and procedures in connection with the critical problems occurring in the continuing disability review. She called for a reevaluation of a number of long-time policies, procedures, and issues with the assistance of appropriate experts. She gave particular attention to updating eligibility criteria involving all medical impairments but especially mental impairments.

On April 13, 1984, the Secretary further announced a suspension of the periodic review process until new disability legislation is enacted and can be effectively implemented. She also re-affirmed her commitment to reform the disability program and to re-establish uniform national disability evaluation standards to eliminate the confusion resulting from differing court orders and State actions.

The Social Security Administration (SSA) has already begun such a review and is accelerating its reassessment of the medical standards for determining disability with help from outside experts from the various States and from the medical and psychiatric fields in general.

Along these lines, SSA has held several meetings to obtain the views of psychiatrists, psychologists, and other professionals involved in the evaluation of mental impairments. These meetings were for the purpose of revising the standards used for determining disability in cases of mental disorders. Based upon the recommendations of the experts, we proposed substantial revisions in the listing of impairments for mental disorders. A Notice of Proposed Rule Making was published in the **Federal Register** (50 FR 4948) on February 4, 1985. After carefully considering all the comments we received, final rules were published in the **Federal Register** (50 FR 35038) on August 28, 1985. As a result of the top-to-bottom review of the mental

impairment criteria in the Listing, the final rules made substantial revision in the "12.00 Mental Disorders" criteria.

Although these final regulations make some changes in SSA's standards for determining disability in cases involving cardiovascular disorders, we have also initiated procedures which will lead to future rulemaking concerning cardiovascular impairments. We have solicited the help of the American Medical Association and other outside experts to serve as members of a Cardiovascular Panel. This panel of medical experts and SSA policy staff has already met three times and will be meeting again to do a comprehensive review of all our cardiovascular standards. The panel is giving particular emphasis to developing further revised criteria that will be consistent with the most recent medically accepted practices. These final rules do not reflect the work of the cardiovascular panel.

When our review is completed, the proposed revised criteria will be published in the **Federal Register** as a notice of proposed rulemaking to give the public an opportunity to comment on them. Similar reviews of our criteria in the Listing of Impairments for evaluating impairments in other body systems will also be initiated.

Also, in response to the Secretary's directives in reevaluating the disability criteria, we set up several workgroups to examine specific problem areas in the disability program. One of these work groups carefully examined the proposed regulations published in the **Federal Register** (47 FR 19620) on May 6, 1982, to determine whether these proposed regulations should be wholly or partially adopted. After considering the public comments along with the Secretary's directives, this workgroup decided that some of the initial proposals should not be adopted or should be studied further to assess their overall impact on disability evaluation before they are again considered for inclusion in the regulations. This reevaluation will also give SSA the opportunity to obtain outside consultation on these as well as other important medical criteria issues. Of course, any future changes considered will be published in the **Federal Register** as a notice of proposed rulemaking to give the public an opportunity to comment on any proposed changes.

In line with this initiative, certain of the proposed revisions that proved especially controversial will not be implemented at this time. The proposed revision of the listing for obesity, 10.10, was one of the most controversial. The proposed revision incorporated a table of weights that were approximately 100 percent above the average weights for specific heights for men and women. This was to replace a table with lower weights, but which required not only that the person meet the weight requirement, but also there be evidence of complications of obesity, such as an impairment in the respiratory, cardiovascular, or musculoskeletal system.

Extensive comments were received stating that the higher weights in the proposed listing represented an unwarranted restriction that would exclude many disabled individuals. In contrast, other comments stated that weight alone should not serve as a basis for finding disability. The new table will not be implemented at this time. However, modifications to the table in paragraph E of the existing listing were necessary to ensure consistency with the revisions in the respiratory body system (i.e., tables IIIA, IIIB, and IIIC in listing 3.02C1). The new tables in paragraph E recognize the influence of air pressure differences, because of elevation, on the tests of gas exchange. Separate tables are provided based on the elevation at which the test is performed.

With regard to the listing for obesity, we will continue to study case experience with the intent of providing a future revision that will be more specific than the approach in the current listing.

A revision we had proposed in 1.10C will not be made. This section discusses complications following a leg amputation that can affect the capacity to walk effectvely with an artificial leg. A primary consideration is that the complication must prevent walking without the aid of an assistive device. The proposed revision stated that the devices intended are those that provide support to both arms or both shoulders, as contrasted to one arm assistance such as is provided by a cane. This section will remain unchanged. Retaining the present criteria will preclude any possibility that applicants may not receive full consideration under this listing because they are using a cane rather than assistive devices that support both arms or both shoulders.

As a result of this general review, technical changes were also made in the proposed listing for arthritis of the major weight-bearing joints (1.03). The first sentence of this listing states there must be persistent stiffness in the affected joint. Stiffness, however, is not broad enough to cover the abnormal motions that can occur in a joint severely affected by arthritis. Therefore, the phrase "marked limitation of motion or abnormal motion" has been substituted. This will allow the consideration of some persons under this listing that would be excluded using the current language.

The proposed revision to the hearing impairment listing (102.08) in Part B of the Appendix, which applies to children under age 18, will not be implemented. The hearing criteria are less stringent for children than adults since an impairment of hearing at an early age may result in a severe speech and language disorder. The current listing applies a more lenient requirement for both children under age 5 and those above. The proposed revision would have raised the requirement for children 5 years of age and older to correspond to that required for adults. This proposal was based on the assumption that at this age any accompanying speech and language disorder could be adequately assessed. Pending further study and consideration, however, the current criteria will be retained.

In addition, in selected sections of the listing the word "severe" has been eliminated where it might be misinterpreted and other terms substituted. This has been done because of the special meaning of this word in the disability evaluation of persons who do not meet or equal the severity of a listing. As used in that phase of evaluation, "severe" means that an impairment is at a level that interferes with some work-related functions, and thus the person's vocational background must be considered in evaluation. This is unrelated to the use of "severe" in the listings, and the deletion of "severe" will prevent an interpretation that there is a relationship.

A careful review has been made of other proposed revisions that were criticized as being too stringent or restrictive, and we believe that the remaining revisions are fully justified in view of current medical treatment.

Amendments

We are revising the medical criteria for 11 of 13 body system listings in Part A of Appendix 1. We are making numerous revisions and a major reorganization of the respiratory system listing. In Part B of Appendix 1 we are revising seven body system listings. However, the background explanations and the listed impairments for all the body system listings in both Part A (except the mental disorders section) and Part B of Appendix 1 are being shown in full to provide a more complete explanation of each system listing, to show the relation of the medical evaluation criteria, and to give the public a better understanding of the

Listing in general and the purposes of the changes.

The medical input for these revisions was supplied by three groups of physicians. The revisions were initially proposed by the Medical Consultant Staff of the Office of Disability, whose members represent all medical specialties. Conferences were then held with other physicians employed by Social Security Regional Offices and Disability Determination Services, the State agencies that make disability determinations for us. After a preliminary consensus was reached, the revisions were then submitted for comment to all Social Security Administration Regional Office and State Disability Determination Services medical staffs, which resulted in further modifications. We also consulted with medical sources outside the Social Security Administration and considered a wide range of public comments.

In the Listing of Impairments, the listings under each separate body system in both Part A and Part B will be effective for periods ranging from 4 to 8 years. Medical advancements in disability evaluation and treatment and program experience require that these listings be periodically reviewed and updated. Specifically, the body system listings in the Listing of Impairments will be subject to the following termination dates:

Musculoskeletal System (1.00) within 5 years. Consequently, the listings in this body system will no longer be effective on December 6, 1990.

Respiratory System (3.00) within 6 years. Consequently, the listings in this body system will no longer be effective on December 6, 1991.

Cardiovascular System (4.00) within 4 years. Consequently, the listings in this body system will no longer be effective on December 6, 1989.

All other body systems listings, except for Mental Disorders, within 8 years. Consequently, the listings in those body systems will no longer be effective on December 6, 1993. (The Mental Disorders listings (12.00) in Part A will expire on August 27, 1988, in accordance with regulations published in the Federal Register (50 FR 35038) on August 28, 1985.

We intend to carefully monitor these listings over the period prescribed for each body system to ensure that they continue to meet program purposes. When changes are found to be warranted, the listings for that body system will be updated in the Federal Register again. Therefore, during the periods ranging from 4 to 8 years after the date of publication of these final rules, the listings under each body system will cease to be effective on the specified dates unless extended or revised and promulgated again.

Following is a summary of the changes in each of the body system listings being revised, including changes in the prefaces that introduce each body system listing and explain how the Listing is used in connection with the specific body system.

Revisions to Part A of Appendix 1

1.00 Musculoskeletal System

Listing 1.02, which provides findings for the evaluation of rheumatoid arthritis, refers to joint changes that are found in severe, active arthritis. There has been some misunderstanding as to which joints this listing applies. To clarify this, section A of this listing is being revised by inserting the word "major" before the word "joints." This addition makes it clear that this listing would not be met by the involvement of isolated small joints of the hands or feet. Wording is also being added to make it clear that the joints that are affected must show significant restriction of function.

Section B of this listing gives findings that confirm the diagnosis of rheumatoid arthritis. A fourth finding is being added: a biopsy report showing tissue changes characteristic of rheumatoid arthritis. This finding has not been included in this listing for several years because it is not obtained by treating physicians as frequently as the others cited, and when it is included in medical reports, in most cases other findings in the current listing are also reported. Its inclusion will, however, expedite the disability determination in the event a biopsy report is the only confirming finding reported in a particular case.

Section B of Listing 1.03, which provides findings to evaluate arthritis of the hip, specifies a condition in which the hip becomes fixed at an unfavorable angle. This section is being deleted since findings showing the fixation of a hip at an unfavorable angle are seldom reported and may not properly reflect the required level of severity intended by the listings.

Hip impairments caused by arthritis will be evaluated under section A of the Listing, which provides medical descriptions that are more often associated with severe limitations of standing and walking because of a hip impairment.

A revision is also being made in section A. Specific reference to hip and knee joints is being added to the current statement, which can otherwise be interpreted to include the ankle joint. This change is necessary because the condition described in this section, when it occurs in the ankle, does not produce a level of impairment comparable to that produced in the hip or knee.

Listing 1.04 provides medical findings that establish a disabling impairment of the upper extremities, including the shoulder joints, because of arthritis. One requirement is a finding of joint enlargement or effusion. This requirement was previously located in the heading of this listing, which indicated that it pertained to both sections A and B of the listing. For shoulder joints, however, joint enlargement or effusion cannot be reliably detected by physical examination. Therefore, this requirement is being removed from the heading of this listing and is being placed in section B. Gross anatomical deformities of the shoulder can be evaluated under section B, however, if joint enlargement or effusion is documented.

Listing 1.08 provides findings for osteomyelitis. These findings are equally valid for another condition, septic arthritis, and the title of this listing is being expanded to include both conditions. Also, one of the medical signs of osteomyelitis, drainage, is being deleted from this listing, because it has been found to be a less reliable finding for evaluation than the others cited.

The term "mobility restrictions" in Listing 1.10C.4 is being clarified by language stating the restrictions intended relate to walking and standing.

2.00 Special Senses and Speech

Section 2.00 is an introductory section that includes general principles to be used in the listings that concern loss of sight, hearing and speech. A new paragraph is being added to Section A to explain the technical specifications for the Goldmann perimeter, a commonly used method of measuring one aspect of vision. The word "spectacle" has been entered in the first paragraph of section 2.00A.3. This is to indicate that contact lenses may be worn during the performance of the visual test described.

3.00 Respiratory System

Extensive changes are being made in this system, both in the introduction and the listings themselves. A number of evaluation revisions are being made. In addition, there is a reorganization in order to make the presentation easier for disability evaluators to use. This is especially important in this system because many of the listings are interrelated by their mutual dependence

on tables that give values for breathing tests. In view of the extensive changes, this system is completely rewritten.

The major revisions of the introduction, section 3.00, are as follows:

Section A of 3.00 is expanded to give a detailed discussion of the approach to the evaluation of respiratory diseases. This includes a discussion of how disability occurs because of lung diseases, and the place of breathing tests and tests of gas exchange (exchange between the lungs and blood) in the evaluation of disability.

Section B is expanded to include the evaluation approach to most of the lung infections that are of concern for disability evaluation. Previously, this section was confined to a discussion of one general type of lung infection, which is caused by mycobacteria, primarily tuberculosis. The revision applies the same evaluation approach to conditions caused by mycotic organisms. The course of these two types of infections and their response to treatment do not justify separate principles of evaluation.

Section D concerns the use of breathing tests in the evaluation of disability. The title of this section is changed to more accurately describe its content from "Documentation of pulmonary insufficiency" to "Documentation of ventilatory function tests." A sentence is added to the second paragraph of this section to specify that height, which is used in tests of breathing to predict normal values, should be measured without shoes. Another change in this paragraph provides a highly technical addition that describes the calibration of units of volume on equipment that records breathing function.

A new section, section E, is added to the introduction. This section gives a more complete explanation of the use of tests that determine the adequacy of the exchange of gases between the lungs and blood. It also gives a more complete discussion of the place of these tests in disability evaluation. This includes the evidence that should be obtained before resorting to this type of testing. This is an important consideration because the tests are highly specialized and expensive and should be used only in the small percentage of cases in which they are essential.

Numerous changes are also being made in the listings for specific lung diseases.

Listing 3.02, which currently gives criteria for one type of lung condition, is expanded to include evaluation of the various types of lung conditions that result in permanent impairment of breathing or of the capacity to exchange gases between the lungs and blood. This will simplify the cross referencing of different listings that are based, in part, on these tests and will give a more unified presentation of how the values obtained from breathing tests relate to evaluation.

In addition to this basic reorganization, a number of technical changes are included in the revised listing. Table 1, the table for chronic obstructive pulmonary disease, contains technical adjustments to make the two values used in this table more consistent. Revision of the values is also being made to make them more accurate for taller individuals.

Listing 3.02B includes the evaluation of spinal curvatures that diminish breathing. An addition to this listing specifies that when the spine is deformed to the extent that it distorts height, arm span should be substituted for height in interpreting the results of breathing tests.

The data for the measurement of gas exchange in Listing 3.02C are expanded to include values for testing during controlled exercise. Another revision in this section will recognize the influence of air pressure differences, because of elevation, on the tests of gas exchange. Separate tables are provided based on the elevation at which the test is performed.

Listing 3.03 provides for the evaluation of chronic asthma by giving criteria for the frequency of attacks, their severity, and the presence of remaining symptoms between severe attacks. Language is added to the last sentence of section B of this listing to emphasize that findings between attacks must be documented by medical examinations.

A significant change is being made in Listing 3.09, the listing that gives criteria for mycotic lung infections. Previously, this type of infection was evaluated by findings indicating continuing infection. The change provides for evaluation of the permanent lung damage caused by the disease after the acute infection is past. This revision is based on changing treatment which makes it improbable that this condition will meet the 12-month duration required for a finding of disability. (However, an evaluation approach to rare cases of prolonged infection is contained in section 3.00B.)

Listing 3.12, the listing for fistulas that arise from the pleura, or covering of the lung, was deleted. It is now obsolete because of surgical and medical treatment. Fistulas of this type are now often of short duration or, if prolonged, are improved to the extent that they do not reflect the severity intended when this listing was first published. The existing listings now provide for adequate evaluation of fistulas on the basis of the primary medical conditions that cause them.

4.00 Cardiovascular System

Section 4.00 is an introduction to the listings for heart conditions and other vascular diseases. Several items in this introduction are changed. The fourth paragraph of subsection F.1 is revised to make it clear that descriptions of electrocardiograms are not sufficient for disability evaluation, and that a copy of the electrocardiogram must also be submitted.

A sentence is added after the second sentence of the first paragraph of subsection F.2 to explain that a type of electrocardiogram reading, called a posthyperventilation tracing, may be essential to evaluate people with certain medical conditions.

The following segment was deleted from the first sentence of subsection G.2 of this introduction: "as typified by the Bruce protocol." This protocol, a well-known procedure used in treadmill testing for heart conditions, was used as an example. The increasing use of treadmill exercise tests in the medical management of heart conditions now makes this example unnecessary.

The first paragraph of subsection G.3 lists conditions in which treadmill exercise testing should not be obtained for the evaluation of heart disease, in most cases because of the potential hazard. Another situation, involving the recent onset of chest pains that are considered to be caused by a heart condition, is added to the first paragraph. This is widely recognized by physicians as a reason for delaying this type of testing.

A sentence is added at the end of section I in recognition of the increasing use of echocardiography, a method of determining the characteristics of heart conditions. This sentence points out that this method may not be a conclusive test for specific heart conditions.

Another addition to this introductory section concerns vascular disease of the legs rather than heart disease. This addition, section K, gives background material on how a medical technique (Doppler study) is used for the measurement of the adequacy of blood circulation in the legs.

Section A of Listing 4.04 contains technical requirements for findings obtained from electrocardiograms made during exercise. Two revisions to the section are being made—one in item 1, another in item 2. Both concern one aspect of an electrocardiogram, called the ST segment. The first revision provides more detail on the

measurement of this aspect of the electrocardiogram; the second adds an additional characteristic of this measurement that can verify an abnormality of heart function. Listing 4.04 is also being revised by adding in section B evidence obtained by the radio-isotopic method, a method that is being increasingly used by physicians to determine the characteristics of heart abnormalities. In the notice of proposed rulemaking, this revision was made in section D, which is now being eliminated.

The title of Listing 4.13 is changed to "Peripheral arterial disease." This replaces a title that cited two common conditions that often produce severe impairment because of decreased functioning of the arteries in the legs. The new title makes it clear that evaluation under this listing is not restricted to conditions with these two specific diagnoses. Section B of Listing 4.13 concerns testing the adequacy of blood flow in the legs by using a technique (Doppler study) that detects blood flow by sound waves. The required values from this test, which are now contained in supplemental instructions, are being included in the listing.

5.00 Digestive System

Section A of Listing 5.05 gives one of several findings used to confirm advanced, chronic liver disease. This is based on bleeding from lesions (varices) that are caused by liver disease. While this is usually a good indicator of disabling liver disease, in some cases prolonged periods of improvement can occur after bleeding of this type. Therefore, this section is revised to state that when bleeding has not occurred for 3 years at the time disability is being considered, this factor alone will not be used to establish that liver disease is disabling. A similar change has been made in section B of this listing. In this case, the need for surgery for these lesions caused by liver disease is used as a measure of the severity of the condition. The same 3-year statement is added because in some cases prolonged improvement occurs after this surgery.

Section 5.05F.1 uses a finding of fluid accumulation in the abdomen in combination with evidence from a liver biopsy. A new section, D, allows this finding to be used in the absence of liver biopsy, and substitutes for equivalent meaning a requirement that the fluid accumulation must be present for a longer period of time than is required when a liver biopsy has been obtained. In the same listing, the phrase "for at least 3 months" is added at the end of subsection 2 of section F. This corrects a printing omission made during a prior revision.

Listing 5.08 uses extreme weight loss as a measure of the severity of diseases of the intestines and other organs of the gastrointestinal system. Language is added to the heading of this listing to emphasize that the weight loss must be persistent. This addition is needed to prevent this listing from being applied to gastrointestinal conditions which, though severe, are subject to definite improvement over a period of less than 12 months.

7.00 Hemic and Lymphatic System

Section 7.00 is an introduction to the listings for blood diseases. A sentence is being added to section E, the part of this introduction that concerns the evaluation approach to acute leukemia. This addition specifies that a phase of one type of chronic leukemia should be evaluated in the same manner as acute leukemia. This is necessary because the usual course for this phase of chornic leukemia is similar to that for acute leukemia.

An additional finding showing chronic anemia is added to the listing for sickle cell disease. This measure of chronic anemia, added as section C of Listing 7.05, is already included in the listing for sickle cell disease for children under 18 in Part B. Its inclusion in the adult listing will facilitate proper decisions for adults with this condition.

Listing 7.12, the listing for chronic leukemia, retains the same wording, but the concluding references to other listings are being changed, with the addition of references to Listings 7.11 and 7.17. This is made necessary by the addition of another listing, 7.17, and the additional consideration of one phase of chronic leukemia discussed in the explanation of the change in section 7.00E. See the explanation of the revision of section 7.00E and Listing 7.17 for a further understanding of the purpose of the additional references.

Listing 7.16 provides findings for a type of bone tumor that produces changes in the blood. Reference to pathological bone fracture, fractures which occur without definite trauma, has been removed from section A of the listing. Another listing, 1.11, gives more accurate criteria for this condition than provided in this listing.

A new listing, 7.17, is added to recognize the treatment of severe anemias and blood malignancies by the transplantation of bone marrow. It provides for consideration of the improvement that occurs in many cases after this method of treatment.

9.00 Endocrine System

One word is changed in section C of Listing 9.08, the listing for diabetes mellitus. The word "vascular" is replaced with "arterial," because this condition is caused by disease of the arterial system in the legs rather than in the veins of the legs.

10.00 Multiple Body Systems

As previously explained, under the subheading "Study of the Disability Program" in this preamble, the revisions which we had proposed to make to the Multiple Body Systems are not being made. However, for the reason given in that section of this preamble, the table in paragraph E of Listing 10.10 is being modified.

11.00 Neurological

Section 11.00 is an introduction to the listings for the evaluation of neurological impairments. Item A of this introduction includes the approach to the evaluation of epilepsy. Additional language added to the third paragraph specifies that a medical test (determination of drug levels in the blood serum) must be considered in determining whether prescribed medication for seizures is being taken. This revision is necessary because of the increasing ability to control seizures by using proper drug therapy regimens. Item B of this introduction concerns brain tumors, which often cause disability by affecting the nervous system. A change in the first sentence of section B of this introduction points out that the diagnosis and persistence of brain tumors should be determined before applying the findings in the neurological listings. The listings used to evaluate brain tumor provide only decriptions of signs, symptoms and findings. These descriptions cannot be used without consideration of the specific type of tumor involved, because characteristics of these tumors vary. Some respond rapidly to surgery or other treatment and the neurological findings in the listings may in some cases be temporary. A change is also being made in the last sentence of section B of the introduction. The word "benign" is removed from before the word "tumor." For certain brain tumors, the distinction between benign and malignant tumors may be controversial, but the distinction is not important for the proper use of the listing.

After we consulted with an organization concerned with multiple sclerosis, we are making several changes for the evaluation of that disease. A new 11.00E has been added to the preface to describe the criteria;

for evaluating multiple sclerosis found in listing 11.09. And a new paragraph "C," has been added to listing 11.09, to provide criteria for evaluating the impairment of individuals who do not have muscle weakness or other significant disorganization of motor function at rest, but who do develop muscle weakness on activity as a result of fatigue.

12.00 Mental Disorders

Since the Notice of Proposed Rule Making pertaining to these revisions of the Listing of Impairments in general was published on May 6, 1982 (47 FR 19620), Pub. L. 98–460 was enacted on October 9, 1984. Section 5 of this law requires the Secretary to revise the criteria embodied under the category "Mental Disorders" in the Listing of Impairments in effect on the date of the enactment of Pub. L. 98–460. On February 4, 1985, a complete revision of the mental disorder listings contained in 12.00 of the Listing of Impairments was published in the **Federal Register** (50 FR 4948) as proposed amendments along with a Notice of Proposed Rule Making providing for a 45 day comment period ending on March 21, 1985. Interested persons, organizations, and groups were invited to submit data, views, or arguments pertaining to those proposed amendments during the 45-day comment period. Careful consideration was given to all the comments submitted, and final rules to the 12.00 Mental Disorders of the Listing of Impairments were published in the **Federal Register** (50 FR 35038) on August 28, 1985.

13.00 Neoplastic Diseases

Several changes are being made in section C of the introduction to the listings for the evaluation of neoplastic diseases. In the first and fourth paragraphs, wording changes are being made that do not change the substance. An added fifth paragraph states that the neoplastic listings do not apply in cases where the original tumor and any spread from it have disappeared for 3 or more years. Although the conditions described in these listings are those in which improvement is unlikely, varying responses to therapies make this time qualification necessary.

Listing 13.03 is being revised to ensure there will be no misunderstanding of the extent of tumor spread that is intended. The reference to lymph nodes in section B is replaced with a reference to the specific nodes intended—the regional lymph nodes. Similar changes are made in Listings 13.21C, 13.22B, and 13.28B.

Listing 13–13, which provides for the evaluation of malignant lung tumors, is being revised to reflect current medical knowledge about the expected course of different types of lung tumors. Sections D and E of this listing provide different standards based on the extent of tumor spread, depending on the type of tumor shown by cell examination.

Section A of Listing 13.16 previously provided different standards for tumors of the esophagus, depending on the location of the tumors, with evidence of greater tumor spread being required for those located in the lower part of the esophagus. The revision eliminates the separate requirement. Program and general medical experience have not shown that there are sufficient differences in the course of these tumors to justify a requirement of greater spread for tumors located in the lower part of the esophagus.

The requirement in Listing 13.19, section C, for one type of tumor of the bile ducts is being revised. Evidence of the extension of this tumor from the original location is no longer being required. This is based on additional medical data showing the usual course of tumors in this area.

In Listing 13.21, a change is also being made in section B to specify the type of tumor spread required.

Two additional listings are provided for this body system: 13.29, which gives evaluation criteria for one type of malignant tumor of the penis; and 13.30, which gives criteria for the vulva. The requirements for both are based on the expected course of these conditions, considering available treatment.

Revisions to Part B of Appendix 1

101.00 Musculoskeletal System

Listing 101.02 gives findings for children with rheumatoid arthritis. Section A of this listing formerly specified that signs of joint inflammation must persist or recur despite 6 months of medical treatment. This period is changed to 3 months, the period now specified for the comparable adult listing, which is sufficient time to establish a chronic condition for the purpose of disability evaluation.

102.00 Special Senses and Speech

As previously explained under the subheading "Study of the Disability Program" in the preamble, the revisions which we had proposed to make to the Special Senses and Speech listings are not being made.

106.00 Genito-Urinary System

Listing 106.02 provides laboratory values for the evaluation of chronic kidney disease in children. We eliminated use of BUN findings because creatinine findings are more reliable for assessing severity of chronic kidney disease. We also made the creatinine clearance valves more restrictive and added a 3-month duration requirement to ensure against erroneous allowances for children who have acute illness which is not expected to persist for 12 months.

112.00 Mental and Emotional Disorders

The name of the well-known intelligence test (Wechsler Intelligence Scale for Children) referred to in this preface is being changed to show the name for the lastest version of this test (Wechsler Intelligence Scale for Children-Revised).

113.00 Neoplastic Diseases, Malignant

Listing 113.02 provides medical criteria for malignant tumors that involve the lymph system. Section A of this listing is being revised to provide separate criteria for Hodgkin's disease. The revision states that Hodgkin's disease must be shown to be progressive and uncontrolled by prescribed therapy. General medical experience over the past several years has shown increasingly successful treatment of this condition.

Public Comments

Subsequent to the publication of the notice of proposed rulemaking in the **Federal Register** (47 FR 19620) on May 6, 1982, we mailed copies to State agencies, national organizations and other parties interested in the administration of the title II and title XVI disability programs. As part of our outreach efforts, we invited comments from State disability determination services, national organizations representative of disabled persons, their advocates, and service providers. We also invited comments from various health and medical associations as well as from law and legal service organizations. We received over 500 comments pertaining to specific changes which we had proposed. Some commenters addressed a large number of issues pertaining to changes under many different body systems. The majority of comments were from people and organizations whose responsibilities and interests require them to have some expertise in the evaluation of impairments. Many were from sources with specialized medical background. Most of the comments we received concerned the specific evaluation criteria for particular impairments contained in the Listing of Impairments.

We have carefully considered all the comments and have adopted some of the recommendations. These changes are identified in the following discussion of issues which were raised in the comments.

Except for those comments pertaining to the Listing in general, we discuss these comments under the appropriate body system headings. Many of the written comments we received necessarily had to be condensed, summarized, or paraphrased. However, we attempted to express everyone's views adequately and to respond to the issues raised.

Part A of Appendix 1

1. Musculoskeletal System

Comment: Comments from a professional organization question how Listing 1.02 provides for the evaluation of seronegative forms of inflammatory arthritis.

Response: The title of this listing, by the use of the wording ". . . and other inflammatory arthritis," indicates active inflammatory arthritis from any cause can be evaluated under this listing. The laboratory findings in part B of this listing do not relate only to rheumatoid arthritis characterized by laboratory findings related to the presence of typical antibodies. The sedimentation rate is often elevated in other types of arthritis and serves to meet this listing. When the sedimentation rate is not elevated and the signs of severe joint inflammation described in part A are present, findings that confirm one of the many disease processes that can be the cause are used to establish disability on the basis that the condition is equal to the severity of this listing.

Comment: A professional society commented that a specific value should be stated for the serologic test cited in part B of Listing 1.02.

Response: We currently specify only that this test must be positive for the rheumatoid factor. In view of the relationship of this test with part A of the listing, we do not believe a more stringent requirement is necessary. Part A of this listing requires persistent signs of severe joint inflammation. When these inflammatory signs are present, a positive serologic test gives adequate confirmation of active arthritis.

Comment: A comment from a professional medical organization suggested that Listing 1.03 should contain a reference to "persistent disabling, measurable weakness or dysfunction."

Response: The current language in this listing, by referring to limitations of standing and walking, accomplishes the same purpose as the language suggested in this comment.

Comment: Comments from a department of State government observed that certain general statements, such as "severely limiting ability to walk and stand" in 1.03, could prove difficult to apply. This commenter concedes, however, that it is questionable whether more precise definitions can be provided in these instances. Several other commenters also questioned these statements.

Response: It is our goal to provide listings that are as precise as possible. For certain conditions, however, the medical findings must be supplemented by statements of function in order to express the level of severity intended for the condition.

Comment: A department of a State government stated that the changes in Listing 1.02, 1.03, and 1.10 will result in the denial of persons with disabling conditions. Another comment on Listing 1.03 stated that this listing gives no emphasis to multiple finger joint disability.

Response: The change in 1.02A should cause no change in a finding of disability as compared to the former requirements. This change only clarifies that inflammation in multiple finger joints (which could be as few as two joints on one hand) does not meet this part of the listing. It is rare for a person with findings of active rheumatoid joint inflammation to have inflammation confined to a few finger joints. If this should occur, however, it is not consistent with the level of generalized joint involvement intended by this section. Finger inflammation, without the similar involvement of the larger joints, can constitute a disabling impairment, but the determination in this case requires consideration of the number and location of the finger joints involved in the individual case.

The revision in 1.02B4 makes no change in the severity requirements. It merely adds another test that can be used to verify active arthritis. All the prior tests have been retained and only one must be met.

The change in 1.03 that eliminates arthritis of the ankle as a consideration may have a small impact on the number of individuals who meet the criteria of this listing. This is justified, however, because arthritis in the ankle joint does not result in the extent of loss of function as arthritis in the hip or knee. These cases must be evaluated individually to determine the degree of impairment in each case.

We do not believe this revision of 1.10C would have had a significant impact on the number of individuals who would have been allowed benefits under this listing. Usually, complications that prevent the effective use of the lower limb prosthesis result in a gait impairment that requires more support than that provided by a cane. As previously stated under the subheading "Study of the Disability Program" in this preamble, however, this proposed revision is not being implemented. The primary focus of this listing is, in any case, on the severity of the complication that prevents effective ambulation with a prosthesis. Retaining the present criteria will preclude any possibility that applicants may not receive full consideration under this listing because they are using a cane rather than assistive devices that support both shoulders.

Comment: One commenter stated that the requirement for sensory and motor "loss" in the listing for spinal disorders, 1.05, could be interpreted to mean a total loss, which seldom occurs in these conditions.

Response: This language has been used for many years, and such an interpretation has not surfaced. the extreme rarity of total motor loss due to this condition makes this interpretation unlikely.

Comment: Another comment, concerning sections 1.00B and 1.05B1, states that the amount of disability in spinal conditions does not clearly correlate with the percentage of compression.

Response: Section 1.00B does not discuss disability in terms of compression. Section 1.05B1 does cite loss of height of a vertebral body in association with compression fractures. However, this is used as one of the findings to confirm severe osteoporosis, not as the primary finding that shows the severity of the impairment. This loss of height must be associated with a spontaneous compression fracture.

Comment: A comment from a professional medical association concerned the statement in Listing 1.08 which specifies that at least two acute episodes of osteomyelitis must have occurred in the 5 months before adjudication. The comment questions whether it is realistic to consider osteomyelitis to be chronic until it has persisted for 6 months.

Reponse: The purpose of this part of the listing is to establish criteria that give a reasonable likelihood that the impairment will persist. Whether the period of activity is 5 months or 6 months is necessarily somewhat indefinite and either period would result in essentially the same cases being found to meet this listing. In any event,

this listing requires a medical judgment that the condition is expected to last for at least 12 months.

Comment: A legal assistance group stated that the change in the listing for osteomyelitis (1.08) would be detrimental to persons now receiving benefits and should be applied for current claims, but not retroactively.

Response: No revision will be applied retroactively in the sense that a past determination will be reexamined and reversed. The only change in this listing is the deletion of one of the signs of active osteomyelitis, i.e., drainage.

Other signs and findings—heat, redness, swelling, leucocytosis, or increased sedimentation rate—are retained. If upon current examination these are not present, there is considered to be no basis for a finding of disability due to active osteomyelitis. The deletion of drainage was to eliminate under this listing consideration of a small number of cases in which there continued to be occasional episodes of minimal drainage from a previous site of active osteomyelitis. It should also be noted that this listing pertains only to the limitations resulting from active infection. Osteomyelitis can also result in permanet musculoskeletal damage. Impairments from this type of damage are evaluated separately.

Comment: A comment on the listing for leg amputation (1.10) proposed that this listing should also refer to complications of amputation that require the use of a wheelchair.

Response: This listing requires that the complications from a single leg amputation must be sufficiently severe to require the use of obligatory assistive devices such as crutches or a walker. We have not adopted the suggested change because we are aware that complications requiring a wheelchair or necessitating bed confinement are even more severe and would meet the requirements of this listing.

Comment: A professional association concerned with physical medicine and rehabilitation suggested that the evaluation of disorders of the spine should include a requirement that the condition must persist despite comprehensive rehabilitation management.

Response: The requirement is that the listed abnormalities persist for at least 3 months despite prescribed therapy and are expected to last 12 months. This avoids having the administration prescribe a specific treatment for this complex condition. If the impairment improves because of comprehensive rehabilitation management, or other reasons, that improvement will be evaluated.

Comment: The organization in the preceding comment also suggested that the reference to "orthopedic" in the fourth paragraph of 1.00B should be changed to "musculoskeletal."

Response: We believe that the word musculoskeletal would be too vague. Orthopedic examination has a meaning that is generally understood by physicians and best describes the findings we require for these back disorders. The use of the word orthopedic is not meant to designate that an orthopedic specialist must supply the findings. Basic orthopedic findings are common to several medical specialties and internal medicine as well.

Comment: A legal services group commented that 10 substantive changes in the musculoskeletal system were not explained when the proposed rules were published and that these unexplained changes provide more restrictive requirements and thus violate the intent of the Administrative Procedure Act.

Response: All but five of these changes involve the addition of adjectives, such as the modification of "activity" by "clinical" in Listing 1.02. These changes do not alter the basic criteria of these listings.

The other changes are more significant. In Listing 1.02, the signs of rheumatoid inflammation of a joint no longer include "heat." This change does not introduce a more restrictive requirement, however, but rather facilitates determinations under this listing. Heat has been found to be an equivocal finding because it is difficult to detect with certainty on physical examinations and is not reported regularly. It was, therefore, deleted, and only two signs of joint inflammation, swelling and tenderness, are retained in the revision.

Another change in this listing is that joint inflammation must be present "on current physical examination." This does not introduce a new requirement, but emphasizes the intent of this listing, that is, that joint inflammation must persist for at least 3 months and until the time the determination is made, if that time is before 12 months from onset.

It was explained when the proposed rules were published that arthritis of the knees and hip was being combined in a single section of this listing, eliminating the separate section for arthritis of the hip joint. In this new section, x-ray evidence of joint changes characteristic of arthritis is required for either the hip or knee joint, while the prior listing required x-ray evidence for the hip joint but not the knee. We do not regard this as a requirement that makes this listing more restrictive. When the physical findings required by both the former and the revised listing (subluxation, contracture, ankylosis or instability of the knee joint) are present, it is expected that the x-ray findings described will also be present. The x-ray findings only ensure that the impairment is caused by permanent joint changes rather than a less serious or a temporary condition.

The other change in this listing is an addition that states that the joint changes described by the criteria must markedly limit the ability to walk and stand. This merely expresses the impact on physical capacity that is logically intended by this listing.

A change in section A of Listing 1.04 adds a requirement, and this should have been explained when the proposed rules were published. This addition will have little effect, however, on the percentage of persons who are allowed benefits under this listing. The basic purpose of the criteria in this section is to identify persons who cannot raise their arms high enough to perform work-related functions. The prior listing measures this by the inability to abduct the arms to 90 degrees, abduction meaning the arms are extended at the side of the body. The added requirement, forward flexion, retains the same degree of restriction, 90 degrees, but with the arms extended to the front. Requiring the measurement in both planes gives greater surety that the restriction is due to permanent joint changes resulting from arthritis, rather than from a less severe condition.

In Listing 1.08, the listing for osteomyelitis, the statement "expected to last 12 months" was added. This is only a restatement of the duration requirement found in the law. It was added to this listing, and several others, because we wished to emphasize the need to judge duration, since the impairment involved is one that would ordinarily be expected to improve within 12 months.

2. Special Senses and Speech

Comment: Comments from a professional organization pointed out that evidence from optometrists can be used to determine the extent of the loss of vision. This organization goes on to say that in the 2.00 and 102.00 sections references are made to "ophthalmology" or "ophthalmologic," which are words derived from a medical specialty practiced by medical doctors, and thus could be interpreted to mean that measurements of vision by optometrists are not acceptable.

Response: Reports of visual loss from optometrists are routinely accepted in our program, and the validity of these findings is acknowledged in the regulations (§ 404.1513) to which the Listing of Impairments is an appendix. We do not believe there can be any fair inference that this evidence is not acceptable; therefore, the title of 2.00A has not been changed. In this case "ophthalmology" best describes the material in this section. The reference to "ophthalmologic disorder" in section 102.00A (third paragraph) has been changed to "visual disorder," since the latter is clearly more logical.

Comment: The organization in the preceding comment also questioned, for the same reason, the use of the word "medical" at several points in these sections.

Response: The word "medical" is used in this section, and others, as an adjective in such terms as "medical evidence." It is used in a general sense and does not mean, nor do we believe it is generally interpreted to mean, evidence exclusively from medical doctors. There is no equivalent substitute for the word and it has been retained.

Comment: One commenter questioned the distinction made between spectacle lenses and contact lenses in section 2.00, asking whether it wouldn't be necessary to remove either type of lens during visual testing.

Response: This distinction is made for only one type of visual testing, the testing of the field of vision, that is, the extent of vision in all directions. While the spectacle lenses prevent proper evaluation of the peripheral part of this field, contact lenses do not and need not be removed.

Comment: A professional organization concerned with the neurological conditions pointed out that the type of test (perimetry) required by section 2.00A3 to determine the extent of visual fields is not necessary for a certain type of visual field loss (hemianopsia) that is of neurological origin.

Response: The type of visual testing described in section 2.00A3 is needed for the vast majority of cases in which visual field testing is obtained. The specific type of visual field loss to which this organization refers is found in only a small proportion of these claims. When this type of visual loss is present, it is likely that the condition causing the loss, such as a brain tumor, will be the focus of disability evaluation.

Comment: An organization representing persons with retinitis pigmentosa, a common cause of visual impairment, stated that the criteria should include consideration of another result of this condition: night blindness and the inability to see in dimly lit places.

Response: This does constitute an additional limitation for people with this condition. It is not the type of limitation, however, that is consistent with the purpose of the Listing of Impairments, which is to identify limitations that prevent all types of work. Since this limitation affects only certain types of work in particular environments, it is more appropriate to consider it in the vocational phase of evaluation, which is explained in this preamble in items 4 and 5 under the heading "How We Use the Listing."

Comment: A professional organization commented that a medical examination by a qualified otolaryngologist should be obtained for any case involving an impairment of hearing, speech, or balance. A similar comment from another organization stated that all communication problems should be evaluated by a speech-language pathologist and an audiologist.

Response: We have never specified that findings for these impairments must be from a particular medical specialty and continue to believe that this is a sound and economical approach. Medical conditions in the areas mentioned in this comment differ greatly in their complexity and completely persuasive evidence is sometimes obtained from treating practitioners who are not specialists in the field of otolarnygology. Every medical determination is reviewed by a physician, and when evidence in addition to that submitted by treating sources is needed, an examination is arranged with a practitioner whose qualifications are appropriate for the type of findings required.

Comment: The organization in the preceding comment also suggested that when speech is produced by the aid of a mechanical or electronic device, the need for manual operation of the device and other limitations of its use should be considered in the determination of disability.

Response: Although these limitations can be considered in the vocational phase of evaluation, as explained in this preamble under the heading "How We Use the Listing," they are not appropriate for the listings because they would interfere with the performance of certain types of jobs but may not cause severe limitation in the performance of many others.

Comment: An association pointed out that when certain types of eye movements are present, electronystagmography may be of little or no value.

Response: This test is cited in 2.00B2, which gives the general approach to the evaluation of Meniere's disease and similar conditions. While this comment is correct, this test is of value for many of these cases. There are variations in many medical conditions that diminish or negate the value of tests and findings that we cite throughout the listings in all body systems. Such situations must be identified by program physicians who evaluate disability cases, and the determination must be based on the evidence that is appropriate in the particular case.

Comment: A number of comments concerned technical specifications for the listings for hearing and speech impairments.

Response: The comments primarily concern the methods and conditions for tests of hearing and speech. These comments will be considered in future revisions of the Listing of Impairments, which will be submitted for public comment through notice of proposed rulemaking procedures.

3. Respiratory System

Comment: Two professional organizations commented that the appproach to respiratory conditions in the 3.00 section does not ensure that all severe cases will be identified. For example, a few individuals may have normal breathing tests and normal x-ray findings and yet have a severe impairment of gas exchange, an others may have impairments arising from pulmonary vascular disease or desquamative interstitial pneumonia that may not be detected. Another comment mentioned that the multiple effects of pulmonary disease are complex.

Response: The cardivascular listing provide consideration of some of the complicating features of pulmonary vascular disease. However, any structured approach to the complex area of pulmonary disease cannot completely encompass all situations. We believe that this section has been improved as a result of changes made on the basis of public comments. There is also versatility within this approach. Unusual cases can be allowed on the basis of equaling the severity of a listing, and the fact that physicians participate in all determinations ensures recognition of atypical cases. There are also established procedures for referring problem cases to specialists in pulmonary disease and pulmonary testing.

Comment: One contributor commented that it was unclear when ventilatory function tests that are

performed without bronchodilation can be used.

Response: The following passage in section 3.00D of the proposed rules published on May 6, 1982, concerns this issue: "These studies should be repeated after administration of a nebulized bronchodilator unless the prebronhodilator values are 80 percent or more of predicted normal values or the use of bronchodilators is contraindicated. The values in tables, I, II, and III assume that the ventilatory function studies were not performed in the presence of wheezing or other evidence of bronchospasm or, if these were present at the time of the examination, that the studies were repeated after administration of a bronchodilator."

The purpose of these studies is to determine loss of function due to permanent lung changes, as contrasted to that which can occur because of periodic constriction of the bronchial passages.

Tests submitted by treating physicians asre sometimes done without bronchodilation. When the values are 80 percent or more of normal, a severe impairment is not shown and there is no reason to repeat the test using bronchodilation. Moreover, even values below 80 percent of normal may not result in a finding of disability. In these cases, there is only a potential to obtain increased values. Since program experience has not shown a misunderstanding of this principle, the language in section 3.00D has not been expanded.

Comment: A division of a State government stated that although sections 3.00D and 103.00A both require that the reported FEV_1 represent the largest of at least three satisfactory attempts, section 103.00A also requires the reported FEV_1 to be within 10 percent of another FEV_1. They question why section 3.00D does not contain this latter requirement.

Response: We have found, upon review of the othe specifications and documentation requirements of sections 3.00D and 103.00A, that the additional requirement in seciton 103.00A is not obtainable. Therefore, the clause "and should be within 10 percent of another FEV_1" has been deleted from section 103.00A.

Comment: In response to the expanded material on the documentation of impairments of gas exchange in seciton 3.00E, several commenters believed that this expansion would lead to the development of this evidence in many more cases, increasing costs and processing time.

Response: The main purpose of this section is to describe the method of obtaining this evidence. This is preceded by a detailed discussion (3.00E1) of other evidence that should be obtained and evaluated before obtaining tests of gas exchange. This type of screening should ensure that documentation of gas exchange is obtained only in cases for which it is necessary.

Comment: In a similar comment, a professional society conserned with thoracic medicine emphasized that blood gas values should not be used for intial screening and suggested language to emphasize this point.

Response: We believe there is little basic difference between the language in section 3.00E1 and that suggested by this organization. We prefer the existing language in this section because it is more specific as to the actual tests that should be obtained before resorting to blood gas studies. One substantive difference in the society's language is the citation of tests of diffusing capacity. We do not emphasize tests of diffusing capacity because the results vary from laboratory to laboratory to a greater extent than blood gas studies.

Comment: The variability of the results of diffusion tests, referred to in the previous response, is related to another comment received from this society, which stated that the diffusion capacity value of 30 percent used in Listing 3.02 is too severe and recommended a value of 50 percent.

Response: In view of the variability of this test between laboratories, we believe this value must be set conservatively. If the value of 30 percent is obtained during the course of evaluation for treatment, we can use it as a basis to establish disability. If a higher value is submitted, it does not mean the claim is denied. The results of other tests are considered and additional tests are obtained if necessary.

Comment: Another comment recommended that the values for ventilatory tests in Listing 3.02 should be given in relation to the percent of predicted values, which would incorporate a person's age, sex, and, if necessary, body surface.

Response: An individual requires the ability for a certain amount of gas exchange in order to have sufficient air in the terminal portions of the lung from which to extract oxygen. This ability for gas exchange is most significantly affected by differences in height and this is taken into account in the criteria. The basic medical evaluation criteria in the Listing of Impairments are intended to provide a basic standard for accomplishment of a certain level of work. It is not based on the concept that individuals, merely because of their age or sex, are expected to function at a lower exertional level.

Comment: A department of a State government questioned the need to purchase arterial blood gas studies since they require insertion of an arterial line which represents an invasive procedure. They suggest that ear oximetry could be substituted for this test.

Response: We recognize that this is an invasive procedure and represents some risk. However, we feel it is necessary to obtain these studies in selected cases. Section 3.00E places safeguards so that the test will not be ordered if the decision can be made on some other basis or if there is an indication of some increased risk.

Ear oximetry is of value in certain clinical situations and, when reported to us by treating physicians, can be used in some cases to rule out severe impairments of gas exchange. This procedure is not cited in the listings, however, because the results obtained lack the precision needed for most cases in which the issue of gas exchange is material to evaluation.

Response: Another commenter expressed concern that some of the guides on obtaining pulmonary testing in section 3.00E might present technical problems. The elevation of the test site, in the view of this commenter, might not be simple to determine in all cases, and the statement in this section that evaluators should be alert to abnormally high barometric pressure at a test site, in cases in which blood gas values fall slightly above the table values, may be difficult to apply.

Response: If there is any question in determining the altitude or elevation of the test site, the laboratory performing the test should be contacted for this information. The problem of making determinations where the altitude falls near the cut-off point between two tables is inevitable in the establishment of any standard, particularly those using numbers. The applicable table should be the one used.

Abnormally high barometric pressure in combination with a borderline finding on one of the tables based on altitude will be a rare event, and its identification is necessarily dependent upon the judgment of the disability evaluator.

Comment: Another comment on the relation of test values to altitude stated that altitude is unimportant when a test value is below a certain baseline, and in line with this, questioned the accuracy of the PO_2 values used in the table for evaluations 6,000 feet above sea level.

Response: It is true that oxygen tensions below a certain baseline level would indicate a severe impairment, presumably at any altitude. However, altitude does make a great difference in the point at which an oxygen tension is considered to be abnormal. In establishing the current values, we have considered a wide consensus of both physicians in the disability program and outside it, including prior consultation with the association providing this comment. We believe the revised values based on altitude are consistent with the past values required at sea level.

Comment: Another commenter suggested that examples of conditions that may produce a restrictive ventilatory impairment should be cited in Listing 3.02B in the same manner as they were cited in the prior listing for this condition.

Response: The introductory section, 3.00A, now contains a discussion of the various conditions that can result in restrictive and obstructive impairments. We believe this consolidated approach is more useful than citing examples for individual listings.

Comment: One commenter questioned the symbols used for blood gases, noting that PaO_2 is used interchangeably with PO_2, as well as $PaCO_2$ with PCO_2. He also stated that PaO_2 is used twice in 3.02C2 whereas it should be used only once. In addition, he stated that in 3.02A the words "chronic obstructive pulmonary disease (due to any cause)" should be italicized to conform with 3.02 B and C.

Response: PaO_2, $PaCO_2$,PaO_2, and PCO_2 are commonly used symbols in respiratory physiology. In these symbols, the "P" represents gas pressure, and the "a" represents arterial blood. Although the "a" was not used in the symbols in the tables of Listing 3.02, the symbols are preceded with the word "arterial", which is what "a" symbolizes. Therefore, PaO_2 and $PaCO_2$ means the same thing as arterial PO_2 and arterial PCO_2, respectively.

PaO_2 was incorrectly used twice in the narrative of 3.02C2. The second reference to PaO_2 has been changed to $PaCO_2$.

The italicizing of the words in 3.02 B and C was not intended; therefore, we have placed these words in regular type.

Comment: Comments from an institute concerned with lung disease stated that table III in Listing 3.02 will not provide accurate measures for certain impairments of gas exchange.

Response: Table III has been deleted in response to this comment that points out the incongruity of a table on vital capacity for determining impairment of gas exchange. We agree that criteria for this condition should be limited to consideration of arterial blood gas studies and diffusing capacity for carbon monoxide. Also, the use of two tables providing different values for vital capacity would produce potentially conflicting results because of the difficulty in definitely determining whether an impairment is limited only to restrictive disease. Table II now provides the only criteria for vital capacity and the values in this table have been increased so that it will properly serve the function for which it was intended.

Comment: A department of a State government stated that the changes in Listings 3.02B and 3.09 will result in the denial of persons with disabling conditions.

Response: In Listing 3.02B, the numerical values were unchanged from the prior listing, which was numbered 3.05. This table has now been revised, based on comments, as explained in the response to the comment immediately preceding this one.

The revision in 3.09 concerns mycotic lung infection. Relatively few people now file for disability benefits because of this condition, and the change in this section, which eliminates an automatic assumption that many persons with this condition will be disabled for 12 months, is consistent with the usual course of this condition under current treatment.

Comment: Another comment on 3.09 stated that the change in the requirement for mycotic lung infection precludes consideration of persons with chronic mycotic lung infection. The commenter believes this results from the emphasis in this revision on the degree of lung damage after the acute infection is over.

Response: This emphasis does not preclude a finding of disability for unusual cases in which the infection becomes chronic. The last two sentences of section 3.00B specifically alert disability evaluators of the potential to find disability in these cases.

Comment: Concerning Listing 3.03B, one commenter felt that many low-income people are not able to afford a physician's services; therefore, the evidence necessary to document the occurrence of asthmatic attacks would be lacking. He felt that testimony from nurses or other knowledgeable persons should be accepted for documenting these attacks.

Response: Documentation of the occurrence of severe attacks and their frequency can include information from medical personnel other than a physician. Information from nurses or respiratory therapists, for example, can enter into reports of emergency room treatment. However, information solely from those sources is not adequate to permit an overall evaluation of this condition.

Listing 3.30B also specifies that other evidence is needed, such as evidence of chronic asthma between attacks (i.e., prolonged expiration with wheezing or rhonchi). That evidence can only be obtained upon physical examination, an examination which would be performed by a physician.

Comment: Another commenter suggested that the values for breathing tests should be related to specific job requirements.

Response: This would not be consistent with the purpose of the Listing of Impairments, which is to establish a level of severity that prevents work activity at all exertional levels.

Comment: One contributor noted that in Part A of the listings height is shown in inches in the respiratory tables, while the comparable table in Part B of the listings gives height in centimeters.

Response: A future revision of the listings will include metric equivalents for all tables.

Comment: Comments were received concerning the standardization of the procedures by facilities that perform pulmonary function studies.

Response: These issues are identical to those raised in relation to exercise tests for heart conditions. See the final comment and response under the "Cardiovascular System."

4. Cardiovascular System

Comment: A professional organization stated that there is a tendency to deny benefits to some heart patients who are disabled by congestive heart failure. This organization attributes this to the fact that there is too much emphasis in our evaluation on signs of gross congestive heart failure despite the fact that our regulations state that these signs need not be continuously present.

Response: As implied in this comment, we state (section 4.00B) that signs of vascular congestion need not be present at the time of adjudication. This is in recognition of the fact that medications often alleviate some signs and symptoms of heart failure without increasing physical function to the extent that work is possible. We do not believe that additional instructions are necessary in this area.

Comment: Another commenter questioned whether it would be possible to provide findings in relation to time periods to evaluate the persistence of congestive heart failure.

Response: The course of this condition is too variable for specific standards of this type. The evaluation must be based upon consideration of the overall evidence.

Comment: A professional organization commented that the word "pain" as used in section 4.00D is not sufficiently broad to describe the ways that patients describe a symptom that results from ischemic heart disease.

Response: We do not believe that further description, short of the explanation given by medical texts, would give an understanding of the variety of ways this symptom may be reported by patients. The evaluation of medical reports by physicians in our program provides the medical knowledge needed for this area. We request that reports from treating sources include a description of the patients' complaints. The description of chest pain of cardiac origin in 4.00E is intended to provide our program requirements rather than to be a guide for treating physicians in recognizing or reporting angina.

Comment: An institute concerned with heart, lung, and blood diseases expressed concern about the number of conditions that can cause chest pain. This combined with the relatively high number of persons who show false negative and false positive responses during exercise tests gives a likelihood of relatively frequent misclassification. This comment also points out that the electrocardiogram lead system used during exercise tests has an influence on the rate of false responses.

Response: This problem cannot be entirely eliminated. It is reduced, however, in the case of false positives, by obtaining a good medical history, especially of the character and inciting factors of chest pain. This is practiced in our evaluation and emphasized in section 4.00E. Errors due to false negatives are mitigated by the evaluation of findings other than those obtained by exercise testing.

We have always attemped to adopt procedures that are widely accepted by current medical authorities. The use of multiple leads does increase accuracy. Our recent experience shows that many of the tests we receive are being performed with multiple leads. We intend to encourage this practice and to formally propose it, for the tests we purchase, in the next revision of this listing.

Comment: The institute in the preceding comment also commented that the electrocardiogram findings that we cite would not identify some types of heart disease, that in some cases blood pressure changes during exercise can be more important than the electrocardiogram changes we cite, and that we have not cited findings obtained from cardiac catheterization which would be more specific for heart disease that involves both the left and right sides of the heart.

Response: We have provided the more commonly found electrocardiogram abnormalities. It is not possible to provide the complete array of combinations that, in conjunction with other findings, may indicate severe heart disease. These can only be considered on the basis of informed judgment utilizing the concept of medical equivalence, which is discussed in the preamble under "How We Use the Listing".

Significant lowering of blood pressure is an extremely important finding and, when reported, can represent a basis for considering a test "positive." Unfortunately, after a great deal of discussion with cardiologists outside our program, we have not been able to determine a specific written standard for the amount of blood pressure drop that can be generally applied.

Cardiac catheterization is not a procedure that we can independently purchase, and we find that it is performed by treating sources in too few cases to warrant providing criteria. Moreover, there is a lack of agreement on the specific level of catheterization findings that would correlate with the requirements now in the listings.

Comment: A professional organization concerned with heart disease suggested that the reference to electrocardiogram changes in section 4.00F2 should be changed from "positive" to "abnormal."

This organization points out that this is more correct because this finding alone does not establish the diagnosis.

Response: This change has been made for the reason stated by the commenter.

Comment: The organization in the preceding comment also suggested that there should not be a general restriction on our purchasing exercise tests for heart patients with Wolff-Parkinson-White syndrome because new medications permit some of these patients to perform these tests without hazard.

Response: The decision on whether to perform an exercise test for a patient with this type of syndrome can be validly made only by a physician who has the patient under continuous management. Isolated findings that we might have available to make this judgment would not be adequate.

Comment: Comments from a professional association recommend that tests of cardiac function other than the one using a treadmill should be cited in section 4.00G. Although this association agrees that the treadmill test is preferable, it states that a vascular condition of the legs or other leg impairment may prevent some claimants from performing a treadmill test. Therefore, alternative exercise tests that can accommodate leg impairments should be cited.

Response: The inability of claimants to perform treadmill testing because of a leg impairment, or other impairment related to the heart, has not proved to be a problem. The treadmill speed required by our criteria can be obtained by persons who have some leg handicap. When it cannot, the other impairment is commonly sufficient to establish disability in itself. It may be possible, of course, that some individual may be unable to perform this test because of a noncardiac impairment that we would not consider disabling. If this should occur, we would not simply dismiss the cardiac impairment. We would need to evaluate it on another basis. We do not believe, however, that the regulations can cover contingencies of this type, which can occur for a variety of the listed impairments.

Comment: A commenter observed that rehabilitation programs using prescribed exercise and other therapeutic methods often raise the exertional tolerance of cardiac patients and should be considered in our criteria. Another commenter observed that coronary artery surgery often increases exertional tolerance.

Response: Rehabilitative measures to increase exertional tolerance are unquestionably desirable for many cardiac patients. The consideration of this is a nationwide disability program presents many problems, however. While rehabilitation is relatively long-range, we are required to make a determination within a reasonable period after the claim is filed. A policy to deny persons until rehabilitation is tried would also present problems for a disability program handling a large number of claims. There are many medical variables that must be considered to predict the extent that any individual is likely to benefit from this type of rehabilitation, and even for those who are the best candidates, the outcome is still somewhat uncertain until the program has been tried for a period of time. When exertional status has been improved through rehabilitation, however, the current regulations provide for its consideration through the evaluation of the results of exercise tolerance tests, which are an integral part of these programs.

Surgery of the coronary arteries presents similar problems in terms of the time and extensive evaluation needed to predict improvement. In view of these considerations, we believe it is sound to continue to evaluate heart disease in terms of current loss of function. Also, we do not believe it would be realistic for a benefit program to insist that a claimant have this type of surgery. This decision is one that should be reserved for the patient and the testing physician. Our criteria do consider the results of this surgery when it has been performed.

Comment: Another commenter suggests we should take an active role in managing rehabilitation programs for claimants with heart disease.

Response: We consider all disability applicants for referral to local rehabilitation agencies. The role of the Social Security disability program is not to manage treatment.

Comment: One commenter felt the requirement for copies of electrocardiograms in section 4.00F should not be applied retroactively, because it would place a hardship on older people who are the most common victims of heart disease.

Response: Apparently this commenter feels that this addition could result in persons who are now receiving benefits becoming ineligible because of this requirement. This would not occur. It has been the policy for many years to obtain copies of electrocardiograms rather than to obtain narrative descriptions or interpretation. This addition merely reflects this long-standing practice. In any case, payment of benefits would not cease solely because a technical requirement of documentation was not fulfilled when a determination was made in the past.

Comment: A department of a State government stated that the changes in section 4.00F2 and Listing 4.13 will result in the denial of persons with disabling conditions.

Response: The change in 4.00F2 could have no measurable impact. It merely specifies that a certain type of electrocardiogram tracing, a posthyperventilation tracing, is required for accurate evaluation in certain rare situations.

Numerical values for a test that measures the adequacy of blood circulation in the legs have been added to section 4.13B. This test was used under the prior listing and the revision only provides the public with the numerical criteria that are used.

Comment: Another commenter stated that we should emphasize that electrocardiograms taken during exercise testing should include a tracing taken at peak exercise and that we should require data on the speed, elevation and duration of the treadmill at each stage of exercise.

Response: These areas are covered by the requirement in 4.00G2 that a precise description of the protocol that was followed must be provided. We agree, however, that it would be helpful to be more specific. The points included in the comment will be considered for the next revision of this listing.

Comment: A professional organization commented that the statement, in section 4.00G3, that an exercise test should not be obtained within 2 months of the onset of angina is misleading because it is possible in selected cases to obtain these tests without undue hazard well before 2 months. The 2-month guide implies, therefore, that it is improper or unethical for a physician to conduct an exercise test within this period.

Response: The timing of exercise tests depends on the medical findings and clinical course in each case, and we wish to emphasize that the 2-month period is only our guide on when we will purchase this test. It is necessary because of the time lag between the event and consideration of the reported information. By allowing a 2-month period, we are much less likely to encounter medical findings in a particular case that cause cancellation and rescheduling of the test at a later date.

Comment: One comment from a professional organization concerns section 4.00J, which provides a general principle that the disability of persons who have had major heart or vascular surgery should not be evaluated until 3 months after the surgery to allow time to assess the improvement of function achieved. The last paragraph of this section states that the implantation of a cardiac pacemaker should not be considered major surgery for the purposes of this section. This organization believes that the statement could be interpreted to mean that it is unnecessary to consider the improvement of heart function that usually follows pacemaker implantation.

Response: The statement means that implantation of a cardiac pacemaker is not considered major heart surgery as discussed in section 4.00J and it is unnecessary to wait 3 months to evaluate cardiac function after the implantation of a pacemaker. In this case, the condition stabilizes earlier and a valid evaluation is usually possible at a much earlier date. Since program experience has shown that this is well understood by disability evaluators, additional language has not been added.

Comment: Another commenter on section 4.00J questions why the 3-month period discussed in the prior response should not be extended to 4 or even 6 months. They stated that they have seen instances where well-motivated individuals were at least 6 to 9 months in returning to reasonable levels of activity, and extending the period even to 4 months would make it easier to evaluate these claims.

Response: We realize that the time required to effect improvement after heart surgery varies. However, we do not have the option of waiting extended periods of time following surgery before assessing the residuals since we are required to make a determination as expeditiously as possible after the claim is filed.

We have found that the usual time after surgery for adequate assessment of the results of surgery is approximately 3 months. Of course, there may be claims where 3 months may be too soon to assess the residuals of surgery. In these situations, the adjudicator may find it necessary to delay longer than 3 months before making an assessment or may even diary the matter for a medical reexamination if future improvement is contemplated.

This diary provides for an early reassessment of the condition after benefits are started.

Comment: A government agency commented that the exercise level (5 metabolic equivalent units) in Listing 4.04 does not preclude all employment since some occupations do not require energy beyond this level.

Response: Since the listings permit allowance of benefits regardless of occupational background, it is the goal to establish criteria at a level of severity that prevents any gainful activity. For this listing we must consider the exercise level in terms of what activities can be performed at peak capacity for protracted periods at that level. We do not believe that setting a more severe level would substantially alter the overall number of persons who would be determined to be disabled. With a more severe level, fewer would meet the requirements of this listing, but many of these would be allowed benefits after more extensive evaluation under the vocational guidelines.

Comment: Another comment on Listing 4.04 by a professional association concerned with heart disease questioned the language that states we will not purchase nuclear ejection fraction studies.

Response: This language has been deleted. We agree that this test has reached a level of general use and

acceptance that makes it practicable for us to purchase it in the cases in which it is important for disability evaluation.

Comment: A professional association commented that the requirement for a 3 mm. or greater elevation in the ST segment (4.04A4) is inconsistent with the current interpretation of this electrocardiogram finding by practicing cardiologists. Even a 1 mm. ST segment elevation is significant in the view of this association.

Response: This section has been revised to require an elevation of 1 mm. or greater.

Comment: Another commenter questioned the meaning of a "negative" coronary angiography as used in section C of Listing 4.04.

Response: We believe the current reference to the criteria in section B7 of the same listing, a reference that immediately follows the word negative, makes it clear that in this case "negative" means narrowing of the coronary arteries less than specified in section B7 of Listing 4.04.

Comment: Another comment from a professional association stated that some adults as well as children have cyanotic congenital heart disease. Thus, a listing with specific criteria should be formulated for adults.

Response: These cases are now evaluated under the criteria for congestive heart failure and other cardiac criteria. There are more specific criteria that would facilitate evaluation, however, and we are preparing a listing for congenital heart disease. This listing will be offered for public comment in the next revision of this listing.

Comment: Other comments from this organization suggested that we should make greater use of echocardiography, rely less on resting electrocardiograms, and cease citing the Master's test since there are now more accurate tests available.

Response: Further revisions are being considered in the area of heart failure and cardiomyopathy. The expanded use of echocardiography will play a part in these revisions. Revisions that will place less reliance on resting electrocardiograms are also being formulated. When these revisions are published, the Master's test will be deleted. This test is being retained at this time, however, because it is more descriptive than the alternative criteria in the present listing. All these revisions will require public comment and will be included in the next revision of this listing.

Comment: Another commenter stated that the present criteria are not sufficiently specific for the heart conditions that result from low cardiac output, such as those caused by abnormal connection between the heart chambers. Similar comments suggest that evaluation criteria should be provided for ejection fraction and electrocardiograms showing digitalis effect.

Response: These issues will be included in the revision discussed in the response to the comment immediately preceding this one.

Comment: In reference to our specifications for exercise testing, comments were received suggesting that we should establish standards for test facilities performing these tests or adopt the standards established by the American Medical Association.

Conversely, another commenter suggested we should accept methods used by individual test facilities, since there are several methods that are equally valid.

Response: There is no necessity for us to establish or adopt general standards for these test facilities. We are concerned only with certain aspects of the procedure which are critical to our evaluation. On the other hand, there is no need for us to forego the requirements that are now stated. These are commonly used by test facilities, and most test facilities readily comply with them.

5. Digestive System

Comment: A department of a State government stated that the changes in section D of Listing 5.04 and Listings 5.05 and 5.08 will result in the denial of benefits to persons with disabling conditions.

Response: Section D of Listing 5.04 has not been revised. This commenter may have intended to cite 5.05D. The change in this section will increase the number of people with severe liver disease who will meet this listing. It adds another basis for allowance on medical considerations alone, without eliminating the existing ones. Sections A and B of listing 5.05 both concern varices, lesions associated with liver disease, which indicate, under the conditions described, an advanced state of the disease. In a few cases, however, persons who meet either A or B subsequently experience marked improvement. The changes in these sections only eliminate the automatic allowance or continuance of benefits for these few individuals. However, we believe that the 12-month time period specified in the proposed changes is too short to determine whether improvement has occurred following the events specified in A and B. Therefore, for this purpose, the time period has been changed to 3 years.

The change in Listing 5.08 will have no measurable effect on the number of persons who are allowed benefits. This listing is intended to apply to individuals who have chronic gastrointestinal disease, and uses marked weight loss as the measure of severity. The only change is the addition of language that emphasizes that the weight loss must be persistent. The only result of this will be to prevent the application of this listing to persons who have acute conditions that, while severe, are subject to improvement or cure within a short period.

Comment: Another comment stated that while anorexia nervosa can be disabling, it is not mentioned in Listing 5.08.

Response: Listing 5.08 is restricted to conditions of gastrointestinal origin; anorexia nervosa is of psychological origin and is generally evaluated under Listings 12.04, 12.06, and 12.08.

Comment: Another comment on Listing 5.08 suggested that detailed records of weight loss and the treatment prescribed should be required by this listing.

Response: We do not believe this would be useful. A general statement of this nature would add little to the present listing. Conversely, detailed specifications would not be realistic, for defined requirements could not encompass the range of evidence that might prove to be convincing in a particular case.

7. Hemic and Lymphatic System

Comment: A commenter questioned the change in 7.00E that states that one type of chronic leukemia should be evaluated under the criteria for acute leukemia. This commenter believes this will lead to loss of benefits for those new receiving benefits on the basis of this condition.

Response: This addition facilitates findings of disability for persons with this type of chronic leukemia. The general criteria for chronic leukemia, since it is more likely to respond to treatment, are based on laboratory findings that show the severity of the condition. These detailed findings are not required for acute leukemia, and are not, therefore, required for this one type of chronic leukemia.

Comment: Comments from an attorney in private practice contend that a hematocrit of 30 percent or less should be sufficient to establish disability on the basis of chronic anemia.

Response: The capacity for sustained activity varies greatly for different individuals with hematocrit levels of 30 percent. Therefore, the additional

criteria under sections A and B of Listing 7.02 are necessary.

Comment: A department of a State government stated that Listing 7.02 requires a persistent hematocrit of 30 percent or less, while section C of Listing 7.05 requires a persistent hematocrit of 26 percent or less. They feel that the hematocrit values should be consistent in both 7.02 and 7.05C. In addition, they stated that "with" should be added following the italicized heading of 7.02.

Response: There is no inconsistency between the hematocrit levels given in these two listings because they serve entirely different purposes. The hematocrit levels specified in the heading of Listing 7.02 is not a listing criterion but a designation of chronic anemia that justifies the use of the criteria in sections A and B of this listing. The hematocrit level in Listing 7.05 is a criterion of that listing.

We are adding the word "with" following the heading of Listing 7.02, and are reversing the order of parts A and B, since we feel that these changes will make the listing more logical.

Comment: A professional organization commented that the 30 percent hematocrit finding in Listing 7.02 may be too permissive.

Response: As indicated in the prior response, a hematocrit of 30 percent is not a criterion for allowance. Additional criteria in sections A or B of this listing must be met.

Comment: A department of a State government stated that the change in Listing 7.16 will result in the denial of persons with disabling conditions.

Response: In Listing 7.16, the listing for a type of bone tumor, the only change is the deletion of the section on pathological fractures. This will have no impact on the rate of allowance for this tumor. The criterion for pathological fracture is unnecessary: other criteria cover this area. Section A of the same listing, for example, provides for allowance for this tumor when involvement of the bones is shown on X-ray, a finding that can be expected to be present before bone deterioration has advanced to the point that a pathological fracture has occurred. In the event that the decision should hinge on pathological fracture, Listing 1.11 will serve as valid means of evaluation.

Comment: A professional organization suggested that chronic myelogenous leukemia and inherited disorders such as Gaucher's, Niemann-Pick, and Tay-Sachs disease should be listed in the hemic and lymphatic section.

Response: The hemic and lymphatic section contains several broad listings, not related to diagnosis, under which these conditions can be evaluated.

8. Skin

Comment: A professional organization noted that this revision does not include skin disorders and stated that revision of skin diseases is necessary because many disease entities are omitted in this area.

Response: Revision of the Listing of Impairments is a continuing project, and skin disorders will be considered for future revision. We see little value, however, in an extensive list of skin diseases. The skin diseases most likely to cause disability are now listed, and the numerous other skin conditions that have some potential to produce disability have characteristics similar to one or more of the skin conditions now listed. This similarity facilitates determinations that such an unlisted skin disease is equal to the severity of one that is listed.

10. Multiple Body Systems

Comment: A physician, commenting on the listing for polyarteritis (10.03), noted that some individuals with this condition are now compensated by the use of immunosuppressive medication. These individuals may have the general arterial involvement required by this listing even though they do not have severe functional limitations.

Response: This is a valid concern which will be considered in a future revision of the listings.

Comment: A professional organization pointed out that one of the findings, LE preparation, used to establish lupus erythematosus in Listing 10.04 should be replaced by other tests that are now available.

Response: We have recognized that recent developments require several changes in this listing. A general revision will be presented for public comment in a future revision of this listing.

Comment: A legal services corporation commented that the listing for disseminated lupus erythematosus (10.04) should include arthritis, which is not an uncommon complication of this condition.

Response: When arthritis results from this condition, it is of an inflammatory type and is evaluated under Listing 1.02, which includes inflammatory arthritis from any cause.

Comment: A number of comments were received concerning the proposed change in the evaluation of extreme obesity (Listing 10.10). Several commenters feel that the increase in the weights in the tables in listing 10.10 constitutes an unjustified tightening of the criteria for determining disability. One commenter feels that weight alone should not be the primary basis for determining disability. Another commenter feels that the proposed change will create difficulty when persons receiving benefits are periodically evaluated to determine whether their conditions continue to be sufficiently severe to justify the continuation of payment of disability benefits. In connection with the requirement in the proposed change that the weight specified by the tables must persist for at least 3 months despite prescribed treatment, another commenter stated that detailed records of weights and the treatment prescribed should be required. And, with regard to the 3 month criterion just mentioned, another commenter questioned whether a person's disability onset begins once the person has met a listed weight for 3 months or if the 3 months may be considered part of disability.

Response: As explained under the subheading entitled "Study of the Disability Program", we have decided not to implement this proposal. Rather, we have decided to study case experience with the intent of providing a future revision that will better reflect the degree of impairment due to obesity which is considered severe enough to preclude gainful activity. However, the table in paragraph E of listing 10.10 is being modified for the reason given in the subheading in this preamble entitled "Study of the Disability Program."

Comment: One commenter suggested that more collagen diseases, such as dermatomyositis, should be included in the listings.

Response: Additional conditions of this type are being considered for future revision of the listings.

11. Neurological

Comment: A department of a State government stated that the changes in sections A and B of 11.00 will result in the denial of persons with disabling conditions.

Response: The change in section 11.00A calls for determination of the blood level of drugs used to control epileptic seizures. This could result in the denial of some individuals who would have been allowed benefits before this revision. The impact will probably be limited, however, because most persons with seizures can be expected to follow treatment. The only result of this revision will be to preclude the automatic allowance of persons who have an excellent chance of becoming free of symptoms by following conventional treatment.

The changes in 11.00B will not change the rates of allowances or denials. The first specifies that the diagnosis and prognosis of a brain tumor must be determined before applying the neurological findings. This only prevents the improper application of these neurological findings to conditions that can be anticipated to be of a short duration. The second change is only a clarification. The word "benign" has been removed from the last sentence of the second paragraph of 11.00B. The purpose of this paragraph is to explain that different evaluation approaches are applied to histologically malignant brain tumors and other brain tumors. These other brain tumors are no longer referred to as "benign." Since "benign" was used to refer to a group of tumors that includes some types that are characterized by rapid growth and devastating neurological impairment, it was thought that this word might be controversial, in that it might be thought to imply that these tumors are always less severe than histologically malignant brain tumors.

Comment: Another comment on drug level monitoring pointed out that this provision is not contained in the listing for children in Part B.

Response: We plan to revise this listing. However, applying this provision to children involves some additional considerations. The public organizations and individuals who will be concerned with this change will be somewhat different from those concerned with the adult requirements. Revision of this listing, therefore, will be offered for public comment in a future revision of the Listing of Impairments.

Comment: A professional organization concerned with the treatment of epilepsy commented that blood level monitoring of drugs is expensive and disability claims should not be held responsible for this test.

Response: The requirement for blood level testing will not increase medical costs for claimants. When tests have been obtained during the ordinary course of treatment, they will be used for disability evaluation. If not, the test will be arranged at government expense.

Comment: Another commenter sees the monitoring of drug levels as an infringement of civil rights.

Response: We believe this requirement is consistent with the claimant's obligation under the provisions of the Social Security Act to provide evidence necessary for the disability determination. Also, this procedure is consistent with the current medical management of seizures; that is, when seizures are continuing to occur at a rate in excess of what is expected with prescribed medication, blood drug levels are obtained by treating physicians.

Comment: Another commenter pointed out that blood levels should not be the sole basis for determining whether a drug is being taken and suggested that language should be added to emphasize this. A similar comment states that low blood levels may occur even though the patient is taking medication regularly.

Response: Although we believe these concepts are generally understood by disability evaluators in our program, we agree they should be acknowledged in the listings. Therefore, the following language has been added to section 11.00A. "Blood drug levels should be evaluated in conjunction with all the other evidence to determine the extent of compliance. When the reported blood drug levels are low, therefore, the information obtained from the treating source should include the physician's statement as to why the levels are low and the results of any relevant diagnostic studies concerning the blood levels."

Comment: Another comment suggested that we should specifically state that benefits should not be denied a person whose psychiatric problems prevent the taking of seizure medication.

Response: A general statement of this type would be of little value. A psychiatric problem of this significance would constitute an impairment that would need to be considered in the total evaluation of disability.

Comment: A professional organization concerned with the treatment of epilepsy recommended that physicians with expertise in epilepsy should be consulted in the medical evaluation process.

Response: Physicians participate in every determination of medical severity at the DDS level. In other cases, medical participation is obtained when needed. Although we attempt to recruit a variety of medical specialists to conduct these evaluations, it is impossible to have physicians who have specialized experience in the treatment of epilepsy review all cases involving this condition. There are established referral channels, however, whereby a specialist's evaluation can be obtained for problem cases.

Comment: Another comment from the organization in the preceding comment suggests that it should be made clear that a negative electroencephalogram (EEG) is not conclusive evidence that a person does not have epileptic seizures.

Response: EEG findings are valuable in our evaluation because a specifically abnormal EEG provides evidence that reinforces the available reported findings and may make it unnecessary to obtain more extensive medical history and findings. We do not believe it is necessary to further explain the use of EEG findings in evaluation. Experience has shown that physicians who evaluate disability understand that a negative EEG does not rule out epileptic seizures and that persons who do not record positive changes can be allowed disability benefits.

Comment: Another commenter recommended that we require two EEG's rather than the one now designated.

Response: Although the extent of documentation is always somewhat judgmental, we believe our combined requirement—an EEG plus a description of a typical seizure pattern—provides sufficient, convincing documentation.

Comment: A neurological clinic commented that the word "diurnal," which is used in Listing 11.02, refers more commonly to daily, or recurring daily, rather than daytime, its secondary meaning. They suggest replacing "diurnal" with "daytime," so there will be no confusion as to how "diurnal" is used.

Response: We have made this change for the reason stated in the comment. Also, since the word "diurnal" is used similarly in listing 111.02A1, we have made this change in that listing as well.

Comment: Several letters suggested that the listing for epilepsy (11.02) should be based on the most recent international classification of seizures, which divides epileptic seizures into general types and the provides further subdivision on the basis of a variety of neurological characteristics and symptoms, leading to a total of 18 categories.

Response: Althought this classification is unquestionably valuable in the therapeutic management of seizures and for research, it does not lend itself to a broad classification on the basis of the functions that are most important to work. The present division of this listing provides an evaluation approach based on the most common characteristics of seizures, with the required frequency of seizures related to the disruption of activity that results. Thus, the primary focus of this listing is on the characteristics of the seizures, both during the seizure and the period following it, rather than on the diagnosis of the particular subtype.

Comments: In commenting on Listing 11.03, the listing for minor motor seizures, a neurological clinic stated that manifestations of unconventional behavior are usually ictal rather than postictal.

Response: It is postictal behavior, behavior following the seizure, that is critical to the level of severity intended for this listing. Unconventional behavior that is ictal, occuring during the seizure, is overshadowed by the listing requirement that the seizure must be associated with alterations of awareness or loss of consciousness.

Comment: Another commenter questioned the inclusion of psychomotor seizures in two listings, the listing for major motor seizures (11.02) and minor motor seizures (11.03).

Response: Seizures of this origin result in the patterns described under both listings. They may be classified as being of the major or minor variety, depending upon the pattern in the particular individual.

Comment: Several commenters stated that although listing 11.04 requires an impairment of two extremities, cerebral vascular accidents often produce disability by the impairment of one extremity.

Response: This requirement of the listing does not prevent a finding of disability for impairment of one extremity. These impairments can be allowed by the use of vocational evaluation, the phase of evaluation that is explained in this preamble under the heading "How We Use the Listing." Citing an impairment of one extremity is not appropriate for the Listing of Impairments, however, for its purpose is to identify impairments that can be expected to be disabling, regardless of a person's vocational background.

Comment: Another commenter stated that the listing for vascular accidents (11.04) should include limitations resulting from visual-perceptual dysfunction, since patients with this type of dysfunction do not do as well as others.

Response: In most cases this type of dysfunction is not the one that has the most impact on functional capacity and is one that is the most difficult to document. Insofar as visual-perceptual dysfunction has a signficant impact, it is likely to result in ineffective communication, which is included in Part A of this listing.

Comment: In commenting on neurological Listings 11.08 and 11.14 two organizations stated that sensory loss can severely affect an individual's function despite adequate return of motor function. Therefore, the organizations believe these listings place too much emphasis on motor loss.

Response: Disorganization of motor function is essential for the level of severity that is intended for these two conditions. Sensory disruption may contribute to loss of motor function and may be considered in this context. This is stated by reference to section 11.00C.

Comment: Another comment, concerning the association of sensory and motor abnormalities, stated that it is unusual for a patient to have significant abnormalities of both types.

Response: This is not unusual at the degree of severity that we intend for these neurological listings. Conditions that do not have this pattern are at a lesser level of severity than is intended under the listing.

Comment: A professional organization concerned with speech, language, and hearing problems suggested the inclusion of criteria for communication disorders in many of the neurological listings.

Response: Although communication problems are associated with many neurological conditions, the listings must focus on the typical characteristics of each condition that most often result in disability. Communication disorders, for the neurological conditions for which they are not now cited, are not usually the primary cause of disability.

Comment: A comment from an association questions how evaluation would be handled under 11.00B in cases in which a brain scan indicates tumor spread, but the site of the primary tumor is unknown and thus a biopsy is not possible.

Response: In this case, the determination would rest on the evidence that is obtainable. The scan would be evaluated in conjunction with the clinical findings to determine if there is convincing evidence of disability. Claims are not denied merely because an atypical situation prevents obtaining a procedure that is cited in the listings. Section 13.00B provides direction for this.

Comment: Another comment concerned the absence of listings for sleep disorders and suggested that we coordinate our efforts to develop listings for these disorders with a professional organization.

Response: We have been considering criteria for these conditions, which are now the subject of increasing research and medical publication. The views of professional and advocate groups concerned with these conditions will be considered.

12. Mental Disorders

As indicated previously in the preamble to these amendments, a complete revision of the "12.00 Mental Disorders" of the Listing of Impairments was published in the **Federal Register** (50 FR 35038) on August 28, 1985.

13. Neoplastic Diseases, Malignant

Comment: A department of a State government stated that the change in section E of Listing 13.13 will result in the denial of persons with disabling conditions.

Response: All the existing criteria in Listing 13.13 were retained. Section E of Listing 13.13 is an addition to this listing that provides another means by which a claimant may be found disabled on medical considerations alone.

Part B of Appendix 1

102.00 Special Senses and Speech

Comment: A professional organization recommended that Listing 102.00 be expanded to include a hearing test at a level of 4,000 Hertz.

Response: We have been investigating the necessity of testing at higher frequencies. Previous contacts with audiologic and otolaryngologic groups have recommended another level. No change is being made at this time. We are obtaining further information to determine whether losses at this high frequency significantly restrict a child's ability to hear.

Comment: Several commenters stated that the change in the listing for hearing impairments in children (102.08) is too restrictive.

Response: As explained under the subheading entitled "Study of the Disability Program" in the preamble, this proposed revision is not being implemented at this time. Further study of a change of this type will be made.

103.00 Respiratory System

Comment: A department of a State government stated that section 103.00 should contain the requirement for the correction of ventilatory function test findings for BTPS as in the 3.00 section.

Response: We have added this requirement to section 103.00, to be consistent with the corresponding 3.00 section.

104.00 Cardiovascular System

Comment: An association concerned with pediatrics commented that the 6-month requirement for the persistence of rheumatic heart disease in Listing 104.09 is excessive and stated that a 3-month period coupled with significant cardiac pathology would be adequate.

Response: We agree with this comment. However, before making any revision to this listing, we are first consulting with specialists outside of SSA to help in the formulation of the new criteria. The new criteria will then be presented for public comment.

106.00 Genito-Urinary System

Comment: A legal services group commented that the standards for kidney disease in children in Listing 106.02 should be less restrictive than those for adults.

Response: This commenter is correct since creatinine levels depend, in part, on the muscle mass of the individual. Therefore, the serum creatinine value is being retained at 3 mg., and the creatinine clearance value has been adjusted to be consistent with the serum value of 3 mg.

112.00 Mental and Emotional Disorders

General Comments

Comment: Comments from a physician in private practice questioned the justification for the Listing of Impairments. This physician stated that medical facts and decisions by physicians cannot encompass all the issues that enter into employability, and that the decisions of disability also depend on social considerations and the learning and capability of each individual evaluated.

Response: The Listing of Impairments is one element of disability evaluation. Except for certain categories specified by regulations based upon the law (disabled widow(er)'s and SSI children under age 18), applicants have the potential for evaluation under the broader aspects discussed by this physician. All these considerations are explained in the disability regulations, to which the Listing of Impairments is an appendix. Sections 404.1545 and 404.1546 explain the evaluation of residual functional capacity, which is an assessment of the work-related functions that individuals are still capable of performing despite their impairment. Sections 404.1560 through 404.1569 explain how this assessment is then used to determine whether individuals have the capacity to do work they have done in the past or, if not, whether they have the vocational capacity to do other work in view of their age, education, and work experience. This approach could, of course, be used for all impairments; that is, the Listing of Impairments could be eliminated. We believe, however, that identifying a level of severity that warrants allowance without vocational assessment has proved effective over many years as the most economical and efficient means of screening the most severe cases.

Comment: A professional organization concerned with physical medicine and rehabilitation noted that one purpose of the listings is to assure that disability determinations have a sound medical basis. This organization suggests that this purpose would be further assured by a requirement that disability determinations be based on a diagnosis as established by a physician.

Response: Current regulations require that disability must be established on the basis of a medically determinable impairment as shown by medical signs, findings, as well as symptoms. The diagnosis is, of course, almost always established on the basis of these findings. In a few cases, however, there is unequivocal evidence of a severe, chronic impairment, even though the specific diagnosis is still questionable. We believe it is unnecessary to establish a requirement that could prevent an allowance for these rare cases with questionable diagnoses. Experience has shown the present requirements have resulted in determinations with a sound medical basis.

Comment: Several commenters advocated that the determination of disability should incorporate the principles contained in *Guides to the Evaluation of Permanent Impairment*, a publication by the American Medical Association (AMA). The commenters stressed the value of using the dual concepts of impairment and disability contained in the AMA system—impairment meaning the medical determination of the abnormalities that interfere with activities of daily living, and disability meaning an administrative decision that considers the individual's capabilities and the economic and social environment.

Response: Evaluation under the Listing of Impairments is only one aspect of Social Security's disability evaluation, and the total evaluation employs concepts similar to the dual concepts of "impairment" and "disability" in the AMA guides. An assessment of residual physical and mental capacities is made for persons who have a severe impairment but not so severe as to meet or equal the severity of a listing. This assessment, as is true of the AMA impairment concept, is a medical decision. After the impact of the impairment is assessed, an administrative determination of disability is made, which uses the nonmedical factors that are important to work adjustment. These factors—such as age, education, and work experience—are specified by statute. These principles are summarized in the preamble under the heading "How We Use the Listing" and are explained in detail in the regulations, §§ 404.1560–404.1569 and §§ 416.960–416.969.

The Listing of Impairments is also consistent with the concepts of "impairment" and "disability." Under the listings, an administrative decision has been made that when impairments reach a certain level of severity it is not economical to evaluate the individual's background because the vast majority of people will be disabled with this level of impairment.

Comment: A number of comments, on various body systems, suggested that we totally adopt the evaluation guides of the AMA contained in their publication entitled *Guides to the Evaluation of Permanent Impairment.*

Response: The AMA guides provide general direction for classification or grading of impairments into various broad groups or levels. They are used by a number of physicians and a variety of organizations, in lieu of establishing their own specific standards, for consideration of impairments under a number of programs. The Social Security Administration, in common with other large disability programs, has established medical criteria to respond to the specific definition of disability and the needs of the particular program.

Many of the AMA guides are not sufficiently specific for our program. Some are not closely related to the work-related limitations of function that we must consider under the Social Security Act's definition of disability. Some of the guides, for example, base the disability classification on the resulting symptoms, such as a heart condition that results in symptoms at rest. Rather than providing specific sets of medical findings, guides of this type are illustrated by case histories, which are not intended to be more than an example of one way that the specified degree of symptom severity can occur. Other guides that are more specific do not include the variables that we consider most critical to work capacity in terms of the statute defining disability. The AMA guide for the amputation of one leg, for example, gives a fixed percentage of disability. For our program, we believe the most important work-related consideration is whether there are complications present that prevent the effective use of a prosthesis, and this is the basis of our listing for this condition.

Comment: One letter states that the following statement in the proposed rules published on May 6, 1982, is not clear: "Thus, if a person's impairment or combination of impairments equals or exceeds the level of severity described in the listing, we find that he or she is

disabled solely on the basis of the medical facts, unless we have evidence to the contrary, for example, evidence that the person is actually doing substantial gainful activity."

Response: This statement is found in the part of the proposed rules published on May 6, 1982, that gives background. It is not feasible to give full details in this background information which places the revisions in the general context of the disability program. This commenter's main concern is the circumstances that can result in a denial of disability even though there is a condition that meets or equals the severity of a listed impairment. The regulations to which the Listing of Impairments is an appendix (20 CFR Part 404) give detailed information on this subject. Sections 404.1520, 404.1530, and 404.1571 through 404.1575 are the most pertinent to the issue raised by this comment. (Also see sections 416.920, 416.930, and 416.971 through 416.975.)

Comment: A letter from a professor of physical medicine and rehabilitation suggested that people with certain severe impairments, such as paraplegia and quadriplegia, be paid disability benefits even though they may be gainfully employed. The commenter feels this would encourage them to seek rehabilitation.

Response: The law already contains incentives for severely impaired persons to achieve employment. For example, it provides a 9-month trial work period. During this period, benefits continue regardless of earnings, thus allowing persons to test their work capacity without losing benefits. We believe this provision is preferable to the one suggested. Further, although severely impaired, persons with unique talents may be able to obtain high earnings. It would be in conflict with the statute to pay benefits to these persons.

Comment: A letter from a legal advocate for the disabled points out that there is a wide gulf between being medically capable of employment and finding employment. He advocates that an appropriate mechanism be effectuated to assist persons who are denied benefits.

Response: Persons who are denied benefits are considered for referral to local rehabilitation agencies. The statute specifically precludes ability to find a job as a determinant of disability.

Comment: Another commenter stated that the listings do not give sufficient emphasis to excessive fatigue.

Response: Fatigue, weakness and related symptoms result from many of the impairments cited in the listings. Fatigue is an important result of the medical conditions that are the most common causes of disability, including heart disease and lung disease and certain neurological impairments. However, there is little that can be stated in particular listings about fatigue that is of value in itself. Generally, it must be evaluated in terms of the findings and signs cited under various listings. However, we do address fatigue as it relates to multiple sclerosis. (See 11.00E and 11.09C in the neurological body system of the Listing of Impairments.)

Comment: A columnist who writes a column for the handicapped stated that many people with handicaps are disabled only because of attitude barriers that prevent them from obtaining work and because of lack of accommodations necessary for the handicapped. In view of this, the commenter feels that disability should not be denied any significantly disabled person.

Response: This type of latitude is not possible under the law. The statute defining disability requires that evaluation focus on the functional limitations resulting from a medical condition in relation to job requirements.

Comment: A letter from a local government unit urges us to keep in mind the impact of more restrictive criteria, both in terms of suffering and in shifting the burden to local governments. This commenter attached summaries of several denied cases to illustrate this impact.

Response: There is no general intent in this revision to establish more restrictive criteria. In some instances, medical advances in the treatment for a particular condition have required a revision that will result in fewer persons being allowed benefits. Only a small number of the total revisions are of this type, however. Other changes will result in some persons in a specific category being found disabled when they may not have been under the prior criteria.

Comment: One commenter noted that the listings are not numbered continuously; for example, Listing 7.02 is followed by 7.05.

Response: Program physicians and other personnel become accustomed to associating a listing number with a particular impairment. Therefore, insofar as possible, we try to avoid renumbering when revisions are made. Number stability also facilitates the assoication of the listings in Part B with those in Part A. The last two digits of the listings in the two parts are identical for listings in which the medical conditions are closely related.

Executive Order 12291

These regulations have been reviewed under Executive Order 12291 and do not meet any of the criteria for a major rule. The revisions are of a technical-medical nature and no significant change in disability allowance and denial rates is expected. These amendments to the regulations only reflect changes made necessary by advances in the medical treatment of some diseases and in evaluation methods for certain impairments. The amendments do not have an annual effect on the economy of $100 million or more or otherwise meet the threshold criteria of the Executive Order. Therefore, a regulatory impact analysis is not required.

Regulatory Flexibility Act

We certify that these regulations do not have a significant economic impact on a substantial number of small entities because they only affect disability determinations of individuals under title II and title XVI of the Act. We recognize that the Social Security Administration relies heavily upon medical reports submitted by many physicians practicing privately, in partnerships, and in groups; hospitals; medical clinics; and other health care providers that may be classified as small entities. However, these regulations will not have any significant economic impact upon them because their reporting responsibilities are essentially the same as before the issuance of these regulations. Moreover, under section 309 of Pub. L. 96–265 (the Social Security Disability Amendments of 1980), we now pay physicians not employed by the Federal government and other non-Federal providers of medical services for the reasonable cost of providing us with existing medical evidence that we need and request.

Paperwork Reduction Act

These regulations impose no reporting/recordkeeping requirements necessitating OMB clearance.

The amendments are hereby adopted as revised and set forth below.

(Catalog of Federal Domestic Program Nos. 13.802, Social Security Disability Insurance; 13.807, Supplemental Security Income Program)

List of Subjects in 20 CFR Part 404

Administrative practice and procedure; Death benefits, Disability benefits, Old-Age, survivors and disability insurance.

Dated: April 30, 1985.

Martha A. McSteen,

Acting Commissioner of Social Security.

Approved: May 13, 1985.

Margaret M. Heckler,

Secretary of Health and Human Services.

PART 404—FEDERAL OLD-AGE, SURVIVORS AND DISABILITY INSURANCE (1950———)

For the reasons set out in the preamble, Part 404, Subpart P, Chapter III of Title 20, Code of Federal Regulations, is amended as set forth below.

20 CFR Part 404, Subpart P is amended as follows:

1. The authority citation for Subpart P continues to read as follows:

Authority: Issued under Secs. 202, 205, 216, 221, 222, 223, 225, and 1102 of the Social Security Act, as amended; 49 Stat. 623, as amended, 53 Stat. 1368, as amended, 68 Stat. 1080, as amended, 68 Stat. 1081, as amended, 86 Stat. 1082, as amended, 70 Stat. 815, as amended, 70 Stat. 817, as amended, 49 Stat. 647, as amended; 42 U.S.C. 402, 405, 416, 421, 422, 423, 425, and 1302.

2. Part 404, Appendix 1 (Listing of Impairments) of Subpart P is revised, except for Part A, Section 12, which remains unchanged, to read as follows:

Appendix 1.—Listing of Impairments

In the Listing of Impairments, the listings under each separate body system in both Part A and Part B will be effective for periods ranging from 4 to 8 years unless extended or revised and promulgated again. Specifically, the body system listings in the Listing of Impairments will be subject to the following termination dates:

Musculoskeletal system (1.00) within 5 years. Consequently, the listings in this body system will no longer be effective on December 6, 1990.

Respiratory system (3.00) within 6 years. Consequently, the listings in this body system will no longer be effective on December 6, 1991.

Cardiovascular system (4.00) within 4 years. Consequently, the listings in this body system will no longer be effective on December 6, 1989.

The listings under the other body systems in Part A and Part B will expire in 8 years. Consequently, the listing in these body systems will no longer be effective on December 6, 1993. The mental disorders listings in Part A will expire on August 27, 1988, unless extended or revised and promulgated again.

Part A

Criteria applicable to individuals age 18 and over and to children under age 18 where criteria are appropriate.

Sec.

1.00 Musculoskeletal System

A. *Loss of function* may be due to amputation or deformity. Pain may be an important factor in causing functional loss, but it must be associated with relevant abnormal signs or laboratory findings. Evaluations of musculoskeletal impairments should be supported where applicable by detailed descriptions of the joints, including ranges of motion, condition of the musculature, sensory or reflex changes, circulatory deficits, and X-ray abnormalities.

B. *Disorders of the spine*, associated with vertebrogenic disorders as in 1.05C, result in impairment because of distortion of the bony and ligamentous architecture of the spine or impingement of a herniated nucleus pulposus or bulging annulus on a nerve root. Impairment caused by such abnormalities usually improves with time or responds to treatment. Appropriate abnormal physical findings must be shown to persist on repeated examinations despite therapy for a reasonable presumption to be made that severe impairment will last for a continuous period of 12 months. This may occur in cases with unsuccessful prior surgical treatment.

Evaluation of the impairment caused by disorders of the spine requires that a clinical diagnosis of the entity to be evaluated first must be established on the basis of adequate history, physical examination, and roentgenograms. The specific findings stated in 1.05C represent the level required for that impairment; these findings, by themselves, are not intended to represent the basis for establishing the clincial diagnosis. Futhermore, while neurological examination findings are required, they are not to be interpreted as a basis for evaluating the magnitude of any neurological impairment. Neurological impairments are to be evaluated under 11.00–11.19.

The history must include a detailed description of the character, location, and radiation of pain; mechanical factors which incite and relieve pain; prescribed treatment, including type, dose, and frequency of analgesic; and typical daily activities. Care must be taken to ascertain that the reported examination findings are consistent with the individual's daily activities.

There must be a detailed description of the orthopedic and neurologic examination findings. The findings should include a description of gait, limitation of movement of the spine given quantitatively in degrees from the vertical position, motor and sensory abnormalities, muscle spasm, and deep tendon reflexes. Observations of the individual during the examination should be reported; e.g., how he or she gets on and off the examining table. Inability to walk on heels or toes, to squat, or to arise from a squatting position, where appropriate, may be considered evidence of significant motor loss. However, a report of atrophy is not acceptable as evidence of significant motor loss without circumferential measurements of both thighs and lower legs (or upper or lower arms) at a stated point above and below the knee or elbow given in inches or centimeters. A specific description of atrophy of hand muscles is acceptable without measurements of atrophy but should include measurements of grip strength.

These physical examination findings must be determined on the basis of objective observations during the examination and not simply a report of the individual's allegation, e.g., he says his leg is weak, numb, etc. Alternative testing methods should be used to verify the objectivity of the abnormal findings, e.g., a seated straight-leg raising test in addition to a supine straight-leg raising test. Since abnormal findings may be intermittent, their continuous presence over a period of time must be established by a record of ongoing treatment. Neurological abnormalities may not completely subside after surgical or nonsurgical treatment, or with the passage of time. Residual neurological abnormalities, which persist after it has been determined clinically or by direct surgical or other observation that the ongoing or progressive condition is no longer present, cannot be considered to satisfy the required findings in 1.05C.

Where surgical procedures have been performed, documentation should include a copy of the operative note and available pathology reports.

Electrodiagnostic procedures and myelography may be useful in establishing the clincial diagnosis, but do not constitute alternative criteria to the requirements in 1.05C.

C. *After maximum benefit from surgical therapy* has been achieved in situations involving fractures of an upper extremity (see 1.12) or soft tissue injuries of a lower or upper extremity (see 1.13), i.e., there have been no significant changes in physical findings or X-ray findings for any 6-month period after the last definitive surgical procedure, evaluation should be made on the basis of demonstrable residuals.

D. *Major joints* as used herein refer to hip, knee, ankle, shoulder, elbow, or wrist and hand. (Wrist and hand are considered together as one major joint.)

E. *The measurements of joint motion are* based on the techniques described in the "Joint Motion Method of Measuring and Recording," published by the American Academy of Orthopedic Surgeons in 1965, or the "Guides to the Evaluation of Permanent Impairment—The Extremities and Back" (Chapter I); America Medical Association, 1971.

1.01 Category of Impairments, Musculoskeletal

1.02 *Active rheumatoid arthritis and other inflammatory arthritis.*

With both A and B.

A. History of persistent joint pain, swelling, and tenderness involving multiple major

joints (see 1.00D) and with signs of joint inflammation (swelling and tenderness) on current physical examination despite prescribed therapy for at least 3 months, resulting in significant restriction of function of the affected joints, and clinical activity expected to last at least 12 months; and

B. Corroboration of diagnosis at some point in time by either:

1. Positive serologic test for rheumatoid factor; or

2. Antinuclear antibodies; or

3. Elevated sedimentation rate; or

4. Characteristic histologic changes in biopsy of synovial membrane or subcutaneous nodule (obtained independent of Social Security disability evaluation).

1.03 *Arthritis of a major weight-bearing joint (due to any cause):*

With history of persistent joint pain and stiffness with signs of marked limitation of motion or abnormal motion of the affected joint on current physical examination. With:

A. Gross anatomical deformity of hip or knee (e.g. subluxation, contracture, bony or fibrous ankylosis, instability) supported by X-ray evidence of either significant joint space narrowing or significant bony destruction and markedly limiting ability to walk and stand; or

B. Reconstructive surgery or surgical arthrodesis of a major weight-bearing joint and return to full weight-bearing status did not occur, or is not expected to occur, within 12 months of onset.

1.04 *Arthritis of one major joint in each of the upper extremities (due to any cause):*

With history of persistent joint pain and stiffness, signs of marked limitation of motion of the affected joints on current physical examination, and X-ray evidence of either significant joint space narrowing or significant bony destruction. With:

A. Abduction and forward flexion (elevation) of both arms at the shoulders, including scapular motion, restricted to less than 90 degrees; or

B. Gross anatomical deformity (e.g., subluxation, contracture, bony or fibrous ankylosis, instability, ulnar deviation) and enlargement or effusion of the affected joints.

1.05 *Disorders of the spine:*

A. Arthritis manifested by ankylosis or fixation of the cervical or dorsolumbar spine at 30° or more of flexion measured from the neutral postion, with X-ray evidence of:

1. Calcification of the anterior and lateral ligaments; or

2. Bilateral ankylosis of the sacroiliac joints with abnormal apophyseal articulations; or

B. Osteoporosis, generalized (established by X-ray) manifested by pain and limitation of back motion and paravertebral muscle spasm with X-ray evidence of either:

1. Compression fracture of a vertebral body with loss of at least 50 percent of the estimated height of the vertebral body prior to the compression fracture, with no intervening direct traumatic episode; or

2. Multiple fractures of vertebrae with no intervening direct traumatic episode; or

C. Other vertebrogenic disorders (e.g., herniated nucleus pulposus, spinal stenosis) with the following persisting for at least 3 months despite prescribed therapy and expected to last 12 months. With both 1 and 2:

1. Pain, muscle spasm, and significant limitation of motion in the spine; and

2. Appropriate radicular distribution of significant motor loss with muscle weakness and sensory and reflex loss.

1.08 *Osteomyelitis or septic arthritis (established by X-ray):*

A. Located in the pelvis, vertebra, femur, tibia, or a major joint of an upper or lower extremity, with persistent activity or occurrence of at least two episodes of acute activity within a 5-month period prior to adjudication, manifested by local inflammatory, and systemic signs and laboratory findings (e.g., heat, redness, swelling, leucocytosis, or increased sedimentation rate) and expected to last at least 12 months despite prescribed therapy; or

B. Multiple localizations and systemic manifestations as in A above.

1.09 *Amputation of anatomical deformity of (i.e., loss of major function due to degenerative changes associated with vascular or neurological deficits, traumatic loss of muscle mass or tendons and X-ray evidence of bony ankylosis at an unfavorable angle, joint subluxation or instability):*

A. Both hands; or

B. Both feet; or

C. One hand and one foot.

1.10 *Amputation of one lower extremity (at or above the tarsal region):*

A. Hemipelvectomy or hip disarticulation, or

B. Amputation at or above the tarsal region due to peripheral vascular disease or diabetes mellitus; or

C. Inability to use a prosthesis effectively, without obligatory assistive devices, due to one of the following:

1. Vascular disease; or

2. Neurological complications (e.g., loss of position sense); or

3. Stump too short or stump complications persistent, or are expected to persist, for at least 12 months from onset; or

4. Disorder of contralateral lower extremity which markedly limits ability to walk and stand.

1.11 *Fracture of the femur, tibia, tarsal bone of pelvis* with solid union not evident on X-ray and not clinically solid, when such determination is feasible, and return to full weight-bearing status did not occur or is not expected to occur within 12 months of onset.

1.12 *Fractures of an upper extremity* with non-union of a fracture of the shaft of the humerus, radius, or ulna under continuing surgical management directed toward restoration of functional use of the extremity and such function was not restored or expected to be restored within 12 months after onset.

1.13 *Soft tissue injuries of an upper or lower extremity* requiring a series of staged surgical procedures within 12 months after onset for salvage and/or restoration of major function of the extremity, and such major function was not restored or expected to be restored within 12 months after onset.

2.00 Special Senses and Speech

A. *Ophthalmology*

1. *Causes of impairment.* Diseases or injury of the eyes may produce loss of central or peripheral vision. Loss of central vision results in inability to distinguish detail and prevents reading and fine work. Loss of peripheral vision restricts the ability of an individual to move about freely. The extent of impairment of sight should be determined by visual testing.

2. *Central visual acuity.* A loss of central visual acuity may be caused by impaired distant and/or near vision. However, for an individual to meet the level of severity described in 2.02 and 2.04, only the remaining central visual acuity for distance of the better eye with best correction based on the Snellen test chart measurement may be used. Correction obtained by special visual aids (e.g., contact lenses) will be considered if the individual has the ability to wear such aids.

3. *Field of vision.* Impairment of peripheral vision may result if there is contraction of the visual fields. The contraction may be either symmetrical or irregular. The extent of the remaining peripheral visual field will be determined by usual perimetric methods at a distance of 330 mm. under illumination of not less than 7-foot candles. For the phakic eye (the eye with a lens), a 3 mm. white disc target will be used, and for the aphakic eye (the eye without the lens), a 6 mm. white disc target will be used. In neither instance should corrective spectacle lenses be worn during the examination but if they have been used, this fact must be stated.

Measurements obtained on comparable perimetric devices may be used; this does not include the use of tangent screen measurements. For measurements obtained using the Goldmann perimeter, the object size designation III and the illumination designation 4 should be used for the phakic eye, and the object size designation IV and illumination designation 4 for the aphakic eye.

Field measurements must be accompanied by notated field charts, a description of the type and size of the target and the test distance. Tangent screen visual fields are not acceptable as a measurement of peripheral field loss.

Where the loss is predominantly in the lower visual fields, a system such as the weighted grid scale for perimetric fields described by B. Esterman (see Grid for Scoring Visual Fields, II. Perimeter, *Archives of Ophthalmology*, 79:400, 1968) may be used for determining whether the visual field loss is comparable to that described in Table 2.

4. *Muscle function.* Paralysis of the third cranial nerve producing ptosis, paralysis of accommodation, and dilation and immobility of the pupil may cause significant visual impairment. When all the muscle of the eye are paralyzed including the iris and ciliary body (total ophthalmoplegia), the condition is considered a severe impairment provided it is bilateral. A finding of severe impairment based primarily on impaired muscle function must be supported by a report of an actual measurement of ocular motility.

5. *Visual efficiency.* Loss of visual efficiency may be caused by disease or injury resulting in a reduction of central visual acuity or visual field. The visual efficiency of one eye is the product of the percentage of central visual efficiency and the percentage

of visual field efficiency. (See Tables No. 1 and 2, following 2.09.)

6. *Special situations.* Aphakia represents a visual handicap in addition to the loss of central visual acuity. The term monocular aphakia would apply to an individual who has had the lens removed from one eye, and who still retains the lens in his other eye, or to an individual who has only one eye which is aphakic. The term binocular aphakia would apply to an individual who has had both lenses removed. In cases of binocular aphakia, the central efficiency of the better eye will be accepted as 75 percent of its value. In cases of monocular aphakia, where the better eye is aphakic, the central visual efficiency will be accepted as 50 percent of the value. (If an individual has binocular aphakia, and the central visual acuity in the poorer eye can be corrected only to 20/200, or less, the central visual efficiency of the better eye will be accepted as 50 percent of its value.)

Ocular symptoms of systemic disease may or may not produce a disabling visual impairment. These manifestations should be evaluated as part of the underlying disease entity by reference to the particular body system involved.

7. *Statutory blindness.* The term "statutory blindness" refers to the degree of visual impairment which defines the term "blindness" in the Social Security Act. Both 2.02 and 2.03 A and B denote statutory blindness.

B. *Otolaryngology*

1. *Hearing impairment.* Hearing ability should be evaluated in terms of the person's ability to hear and distinguish speech.

Loss of hearing can be quantitatively determined by an audiometer which meets the standards of the American National Standards Institute (ANSI) for air and bone conducted stimuli (i.e., ANSI S 3.6–1969 and ANSI S 3.13–1972, or subsequent comparable revisions) and performing all hearing measurements in an environment which meets the ANSI standard for maximal permissible background sound (ANSI S 3.1–1977).

Speech discrimination should be determined using a standardized measure of speech discrimination ability in quiet at a test presentation level sufficient to ascertain maximum discrimination ability. The speech discrimination measure (test) used, and the level at which testing was done, must be reported.

Hearing tests should be preceded by an otolaryngologic examination and should be performed by or under the supervision of an otolaryngologist or audiologist qualified to perform such tests.

In order to establish an independent medical judgment as to the level of impairment in a claimant alleging deafness, the following examinations should be reported: Otolaryngologic examination, pure tone air and bone audiometery, speech reception threshold (SRT), and speech discrimination testing. A copy of reports of medical examination and audiologic evaluations must be submitted.

Cases of alleged "deaf mutism" should be documented by a hearing evaluation. Records obtained from a speech and hearing rehabilitation center or a special school for the deaf may be acceptable, but if these reports are not available, or are found to be inadequate, a current hearing evaluation should be submitted as outlined in the preceding paragraph.

2. *Vertigo associated with disturbances of labyrinthine-vestibular function, including Meniere's disease.* These disturbances of balance are characterized by an hallucination of motion or loss of position sense and a sensation of dizziness which may be constant or may occur in paroxysmal attacks. Nausea, vomiting, ataxia, and incapacitation are frequently observed, particularly during the acute attack. It is important to differentiate the report of rotary vertigo from that of "dizziness" which is described as lightheadedness, unsteadiness, confusion, or syncope.

Meniere's disease is characterized by paroxysmal attacks of vertigo, tinnitus, and fluctuating hearing loss. Remissions are unpredictable and irregular, but may be longlasting; hence, the severity of impairment is best determined after prolonged observation and serial reexaminations.

The diagnosis of a vestibular disorder requires a comprehensive neuro-otolaryngologic examination with a detailed description of the vertiginous episodes, including notation of frequency, severity, and duration of the attacks. Pure tone and speech audiometry with the appropriate special examinations, such as Bekesy audiometry, are necessary. Vestibular functions is assessed by positional and caloric testing, preferably by electronystagmography. When polytograms, contrast radiography, or other special tests have been performed, copies of the reports of these tests should be obtained in addition to reports of skull and temporal bone X-rays.

3. *Organic loss of speech.* Glossectomy or larynegectomy or cicatricial laryngeal stenosis due tc injury or infection results in loss of voice production by normal means. In evaluating organic loss of speech (see 2.09), ability to produce speech by any means includes the use of mechanical or electronic devices. Impairment of speech due to neurologic disorders should be evaluated under 11.00–11.19.

2.01 Category of Impairments, Special Senses and Speech

2.02 *Impairment of central visual acuity.* Remaining vision in the better eye after best correction is 20/200 or less.

2.03 *Contraction of peripheral visual fields in the better eye.*

A. To 10° or less from the point of fixation; or

B. So the widest diameter subtends an angle no greater than 20°; or

C. To 20 percent or less visual field efficiency.

2.04 *Loss of visual efficiency.* Visual efficiency of better eye after best correction 20 percent or less. (The percent of remaining visual efficiency = the product of the percent of remaining central visual efficiency and the percent of remaining visual field efficiency.)

2.05 *Complete homonymous hemianopsia* (with or without macular sparing). Evaluate under 2.04.

2.06 *Total bilateral ophthalinopiegia.*

2.07 *Disturbance of labyrinthine-vestibular function (including Meniere's disease),* characterized by a history of frequent attacks of balance disturbance, tinnitus, and progressive loss of hearing. With both A and B:

A. Disturbed function of vestibular labyrinth demonstrated by caloric or other vestibular tests; and

B. Hearing loss established by audiometry.

2.08 *Hearing impairments* (hearing not restorable by a hearing aid) manifested by:

A. Average hearing threshold sensitivity for air conduction of 90 decibels or greater and for bone conduction to corresponding maximal levels, in the better ear, determined by the simple average of hearing threshold levels at 500, 1000 and 2000 hz. (see 2.00B1); or

B. Speech discrimination scores of 40 percent or less in the better ear;

2.09 *Organic loss of speech* due to any cause with inability to produce by any means speech which can be heard understood and sustained.

TABLE NO. 1.—PERCENTAGE OF CENTRAL VISUAL EFFICIENCY CORRESPONDING TO CENTRAL VISUAL ACUITY NOTATIONS FOR DISTANCE IN THE PHAKIC AND APHAKIC EYE (BETTER EYE)

Snellen		Percent central visual efficiency		
English	Metric	Phakic [1]	Aphakic monocular [2]	Aphakic binocular [3]
20/16	6/5	100	50	75
20/20	6/6	100	50	75
20/25	6/7.5	95	47	71
20/32	6/10	90	45	67
20/40	6/12	85	42	64
20/50	6/15	75	37	56
20/64	6/20	65	32	49
20/80	6/24	60	30	45
20/100	6/30	50	25	37
20/125	6/38	40	20	30
20/160	6/48	30		22
20/200	6/60	20		

Column and Use.

[1] Phakic.—1. A lens is present in both eyes. 2. A lens is present in the better eye and absent in the poorer eye. 3. A lens is present in one eye and the other eye is enucleated.

[2] Monocular.—1. A lens in absent in the better eye and present in the poorer eye. 2. The lenses are absent in both eyes; however, the central visual acuity in the poorer eye after best correction in 20/200 or less. 3. A lens is absent from one eye and the other eye is enucleated.

[3] Binocular.—1. The lenses are absent from both eyes and the central visual acuity in the poorer eye after best correction is greater than 20/200.

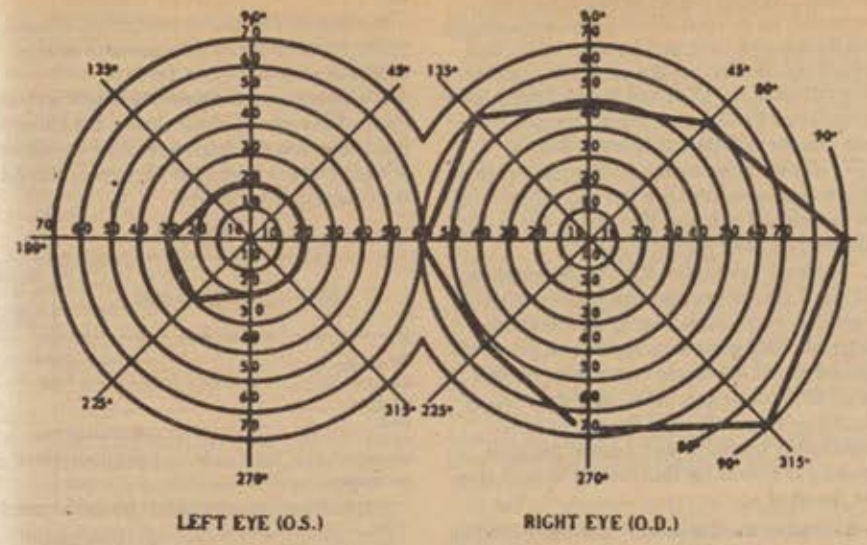

Table No. 2. Chart of visual field showing extent of normal field and method of computing percent of visual field efficiency

1. Diagram of right eye illustrates extent of normal visual field as tested on standard perimeter at 3/330 (3 mm. white disc at a distance of 330 mm.) under 7 foot-candles illumination. The sum of the eight principal meridians of this field total 500°.

2. The percent of visual field efficiency is obtained by adding the number of degrees of the eight principal meridians of the contracted field and dividing by 500. Diagram of left eye illustrates visual field contracted to 30° in the temporal and down and out meridians and to 20° in the remaining six meridians. The percent of visual field efficiency of this field is: $6\times20+2\times30=180+500=0.36$ or 36 percent remaining visual field efficiency, or 64 percent loss.

3.00 *Respiratory System*

A. *Introduction:* Impairments caused by the chronic disorder of the respiratory system generally result from irreversible loss of pulmonary functional capacity (ventilatory impairment, gas exchange impairment, or a combination of both). The most common symptom attributable to these disorders is dyspnea on exertion. Cough, wheezing, sputum production, hemoptysis, and chest pain may also occur, but need not be present. However, since these symptoms are common to many other diseases, evaluation of impairments of the respiratory system requires a history, physical examination, and chest roentgenogram to establish the diagnosis of a chronic respiratory disorder. Pulmonary function testing is required to provide a basis for assessing the impairment, once the diagnosis is established by appropriate clinical findings.

Alteration of ventilatory function may be due primarily to chronic obstructive pulmonary disease (emphysema, chronic bronchitis, chronic asthmatic bronchitis) or restrictive disorders with primary loss of lung volume (pulmonary resection, thoracoplasty, chest cage deformity as seen in kyphoscoliosis), or infiltrative interstitial disorders (diffuse fibrosis). Impairment of gas exchange without significant airway obstruction may be produced by interstitial disorders (diffuse fibrosis). Primary disease of pulmonary circulation may produce pulmonary vascular hypertension and, eventually, heart failure. Whatever the mechanism, any chronic progressive pulmonary disorder may result in cor pulmonale or heart failure. Chronic infection caused, most frequently by mycobacterial or mycotic organisms, may produce extensive lung destruction resulting in marked loss of pulmonary functional capacity. Some disorders such as bronchiectasis and asthma may be characterized by acute, intermittent illnesses of such frequency and intensity that they produce a marked impairment apart from intercurrent functional loss, which may be mild.

Most chronic pulmonary disorders may be adequately evaluated on the basis of history, physical examination, chest roentgenogram, and ventilatory function tests. Direct assessment of gas exchange by exercise arterial blood gas determination or diffusing capacity is required only in specific relatively rare circumstances, depending on the clinical features and specific diagnosis.

B. *Mycobacterial and mycotic infections of the lung will be evaluated* on the basis of the resulting impairment to pulmonary function. Evidence of infectious or active mycobacterial or mycotic infection, such as positive cultures, increasing lesions, or cavitation, is not, by itself, a basis for determining that the individual has a severe impairment which is expected to last 12 months. However, if these factors are abnormally persistent, they should not be ignored. For example, in those unusual cases where there is evidence of persistent pulmonary infection caused by mycobacterial or mycotic organisms for a period closely approaching 12 consecutive months, the clinical findings, complications, treatment considerations, and prognosis must be carefully assessed to determine whether, despite the absence of impairment of pulmonary function, the individual has a severe impairment that can be expected to last for 12 consecutive months.

C. *When a respiratory impairment is episodic in nature*, as may occur in complications of bronchietasis and asthmatic bronchitis, the frequency of severe episodes despite prescribed treatment is the criterion for determining the level of impairment. Documentation for episodic asthma should include the hospital or emergency room records indicating the dates of treatment, clinical findings on presentation, what treatment was given and for what period of time, and the clinical response. Severe attacks of episodic asthma, as listed in section 3.03B, are defined as prolonged episodes lasting at least several hours, requiring intensive treatment such as intravenous drug administration or inhalation therapy in a hospital or emergency room.

D. *Documentation of ventilatory function tests.* The results of ventilatory function studies for evaluation under tables I and II should be expressed in liters or liters per minute (BTPS). The reported one second forced expiratory volume (FEV_1) should represent the largest of at least three attempts. One satisfactory maximum voluntary ventilation (MVV) is sufficient. The MVV should represent the observed value and should not be calculated from FEV_1. These studies should be repeated after administration of a nebulized bronchodilator unless the prebronchodilator values are 80 percent or more of predicted normal values or the use of bronchodilators is contraindicated. The values in tables I and II assume that the ventilatory function studies were not performed in the presence of wheezing or other evidence of bronchospasm or, if these were present at the time of the examination, that the studies were repeated after administration of a bronchodilator. Ventilatory function studies performed in the presence of bronchospasm, without use of bronchodilators, cannot be found to meet the requisite level of severity in tables I and II.

The appropriately labeled spirometric tracing, showing distance per second on the abscissa and the distance per liter on the ordinate, must be incorporated in the file. The manufacturer and model number of the device used to measure and record the ventilatory function should be stated. If the spirogram was generated other than by direct pen linkage to a mechanical displacement-type spirometer, the spirometric tracing must show the calibration of volume units through mechanical means such as would be obtained using a giant syringe. The FEV_1 must be recorded at a speed of at least 20 mm. per second. Calculation of the FEV_1 from a flow volume loop is not acceptable. The recording device must provide a volume excursion of at least 10 mm. per liter. The MVV should be represented by the tidal excursion measured over a 10- to 15-second interval. Tracings showing only cumulative volume for the MVV are not acceptable. The ventilatory function tables are based on measurement of the height of the individual without shoes.

Studies should not be performed during or soon after an acute respiratory illness. A statement should be made as to the individual's ability to understand the directions and cooperate in performing the test.

E. *Documentation of chronic impairment of gas exchange—Arterial blood gases and exercise tests.*

1. *Introduction:* Exercise tests with measurement of arterial blood gases at rest and during exercise should be purchased when not available as evidence of record in cases in which there is documentation of chronic pulmonary disease, but the existing evidence, including properly performed ventilatory function tests, is not adequate to evaluate the level of the impairment. Before purchasing arterial blood gas tests, medical history, physical examination, report of roentgenogram, ventilatory function tests, electrocardiographic tracing, and hematocrit must be obtained and should be evaluated by a physician competent in pulmonary medicine. Arterial blood gas tests should not be purchased where full development short of such purchase reveals that the impairment meets or equals any other listing or when the claim can be adjudicated on some other basis. Capillary blood analysis for PO_2 or PCO_2 is not acceptable. Analysis of arterial blood gases obtained after exercise is stopped is not acceptable.

Generally individuals with an FEV_1 greater than 2.5 liters or an MVV greater than 100 liters per minute would not be considered for blood gas studies unless diffuse interstitial pulmonary fibrosis was noted on chest X-ray or documented by tissue diagnosis. The exercise test facility should be provided with the clinical reports, report of chest roentgenogram, and spirometry results obtained by the DDS. The testing facility should determine whether exercise testing is clinically contraindicated. If an exercise test is clinically contraindicated, the reason for exclusion from the test should be stated in the report of the exercise test facility.

2. *Methodology.* Individuals considered for exercise testing first should have resting PaO_2, $PaCO_2$, and pH determinations by the testing facility. The samples should be obtained in the sitting or standing position. The individual should be exercised under steady state conditions, preferably on a treadmill for a period of 6 minutes at a speed and grade providing a workload of approximately 17 ml. O_2/kg./min. If a bicycle ergometer is used, an exercise equivalent of 450 kgm./min., or 75 watts, should be used. At the option of the facility, a warm-up period of treadmill walking may be performed to acquaint the applicant with the procedure. If, during the warm-up period, the individual cannot exercise at the designated level, a lower speed and/or grade may be selected in keeping with the exercise capacity estimate. The individual should be monitored by electrocardiogram throughout the exercise and representative strips taken to provide heart rate in each minute of exercise. During the 5th or 6th minute of exercise, an arterial blood gas sample should be drawn and analyzed for PO_2, PCO_2, and pH. If the facility has the capability, and at the option of the DDS and the facility, minute ventilation (BTPS) and oxygen consumption per minute (STPD) and CO_2 production (STPD) should be measured during the 5th or 6th minute of exercise. If the individual fails to complete 6 minutes of exercise, the facility should comment on the reason.

The report should contain representative strips of electrocardiograms taken during the exercise, hematocrit, resting and exercise arterial blood gas value, speed and grade of the treadmill or bicycle ergometer exercise level in watts or kgm./min., and duration of exercise. The altitude of the test site, barometric pressure, and normal range of blood gas values for that facility should also be reported.

3. *Evaluation.* Three tables are provided in Listing 3.02C1 for evaluation of arterial blood gas determinations at rest and during exercise. The blood gas levels in Listing 3.02C1, Table III–A, are applicable at test sites situated at less than 3,000 feet above sea level. The blood gas levels in Listing 3.02C1, Table III–B, are applicable at test sites situated at 3,000 through 6,000 feet above sea level. The blood gas levels in Listing 3.02C1, Table III–C, are applicable for test sites over 6,000 feet above sea level. Tables III–B and C, take into account the lower blood PaO_2 normally found in individuals tested at the higher altitude. When the barometric pressure is unusually high for the altitude at the time of testing, consideration should be given to those cases in which the PaO_2 falls slightly above the requirements of Table III–A, III–B, or III–C, whichever is appropriate for the altitude at which testing was performed.

3.01 *Category of Impairments, Respiratory.*

3.02 *Chronic Pulmonary Insufficiency.* With:

A. Chronic obstructive pulmonary disease (due to any cause). With: Both FEV_1 and MVV equal to or less than values specified in Table I corresponding to the person's height without shoes.

TABLE I

Height without shoes (inches)	FEV_1 and MVV	
	Equal to or less than (L. BTPS)	(MBC) equal to or less than (L./min., BTPS)
60 or less	1.0	40
61–63	1.1	44
64–65	1.2	48
66–67	1.3	52
68–69	1.4	56
70–71	1.5	60
72 or more	1.6	64

or

B. *Chronic restrictive ventilatory disorders.* With: Total vital capacity equal to or less than values specified in Table II corresponding to the person's height without shoes. In severe kyphoscoliosis, the measured span between the fingertips when the upper extremities are abducted 90 degrees should be substituted for height.

TABLE II

Height without shoes (inches)	VC equal to or less than (L. BTPS)
60 or less	1.2
61–63	1.3
64–65	1.4
66–67	1.5
68–69	1.6
70–71	1.7
72–or more	1.8

or

C. Chronic Impairment of gas exchange (due to any cause). With:

1. Steady-state exercise blood gases demonstrating values of PaO_2 and simultaneously determined $PaCO_2$, measured at a workload of approximately 17 ml. O_2/kg./min. or less of exercise, equal to or less than the values specified in Table III–A or III–B or III–C.

TABLE III.—A

[Applicable at test sites less than 3,000 feet above sea level]

Arterial PCO_2 (mm. Hg)	Arterial PO_2 and equal to or less than (mm. Hg)
30 or below	65
31	64
32	63
33	62
34	61
35	60
36	59
37	58
38	57
39	56
40 or above	55

TABLE III.—B

[Applicable at test sites 3,000 through 6,000 feet above sea level]

Arterial PCO_2 (mm. Hg)	Arterial PO_2 and equal to or less than (mm. Hg)
30 or below	60
31	59
32	58
33	57
34	56
35	55
36	54
37	53
38	52
39	51
40 or above	50

TABLE III-C

[Applicable at test sites over 6,000 feet above sea level]

Arterial PCO_2 (mm. Hg) and	Arterial PO_2 equal to or less than (mm. Hg)
30 or below	56
31	54
32	53
33	52
34	51
35	50
36	49
37	48
38	47
39	46
40 or above	45

or

2. Diffusing capacity for the lungs for carbon monoxide less than 6 ml./mm. Hg/min. (steady-state methods) or less than 9 ml./mm. Hg/min. (single breath method) or less than 30 percent of predicted normal. (All method, actual values, and predicted normal values for the methods used should be reported.): or

D. Mixed obstructive ventilatory and gas exchange impairment. Evaluate under the criteria in 3.02A, B, and C.

3.03 *Asthma.* With:

A Chronic asthmatic bronchitis. Evaluate under the criteria for chronic obstructive ventilatory impairment in 3.02A, or

B. Episodes of severe attacks (See 3.00C), in spite of prescribed treatment, occurring at least once every 2 months or on an average of at lest 6 times a year, and prolonged expiration with wheezing or rhonchi on physical examination between attacks.

3.06 *Pneumoconiosis (demonstrated by roentgenographic evidence).* Evaluate under criteria in 3.02.

3.07 *Bronchiectasis (demonstrated by radio-opaque material).* With:

A. Episodes of acute bronchitis or pneumonia or hemoptysis (more than blood-streaked sputum) occurring at least every 2 months; or

B. Impairment of pulmonary function due to extensive disease should be evaluated under the applicable criteria in 3.02.

3.08 *Mycobacterial infection of the lung.* Impairment of pulmonary function due to extensive disease should be evaluated under appropriate criteria in 3.02.

3.09 *Mycotic infection of the lung.* Impairment of pulmonary function due to extensive disease should be evaluated under the appropriate criteria in 3.02.

3.11 *Cor pulmonale, or pulomonary vascular hypertension.* Evaluate under the criteria in 4.02D.

4.00 Cardiovascular System

A. *Severe cardiac impairment* results from one or more of three consequences of heart disease: (1) congestive heart failure; (2) ischemia (with or without necrosis) of heart muscle; (3) conduction disturbances and/or arrhythmias resulting in cardiac syncope.

With diseases of arteries and veins, severe impairment may result from disorders of the vasculature in the central nervous system, eyes, kidneys, extremities, and other organs.

The criteria for evaluating impairment resulting from heart diseases or diseases of the blood vessels are based on symptoms, physical signs and pertinent laboratory findings.

B. *Congestive heart failure* is considered in the Listing under one category whatever the etiology (i.e., arteriosclerotic, hypertenaive, rheumatic, pulmonary, congenital, or other organic heart diseases). Congestive heart failure is not considered to have been established for the purpose of 4.02 unless there is evidence of vascular congestion such as hepatomegaly or peripheral or pulmonary edema which is consistent with clinical diagnosis. (Radiological description of vascular congestion, unless supported by appropriate clinical evidence, should not be construed as pulmonary edema.) The findings of vascular congestion need not be present at the time of adjudication (except for 4.02A), but must be casually related to the current episode of marked impairment. The findings other than vascular congestion must be persistent.

Other congestive, ischemic, or restrictive (obstructive) heart diseases such as caused by cardiomyopathy or aortic stenosis may result in signficant impairment dues to congestive heart failure, rhythm disturbances, or ventricular outflow obstruction in the absence of left ventricular enlargement as described in 4.02B1. However, the ECG criteria as defined in 4.02B2 should be fulfilled. Clinical findings such as symptions of dyspnea, fatigue, rhythm disturbances, etc., should be documented and the diagnosis confirmed by echocardiography or at cardiac catheterization.

C. *Hypertensive vacular diseases* does not result in severe impairment unless it causes severe damage to one or more of four end organs: heart, brain, kidneys, or eyes. (retinae). The presence of such damage must be established by appropriate abnormal physical signs and laboratory findings as specified in 4.02 or 4.04, or for the body system involved.

D. *Ischemic heart diseases* may result in a marked impairment due to chest pain. Description of the pain must contain the clinical characteristics as discussed under 4.00E. In addition, the clinical impression of chest pain of cardiac origin must be supported by objective evidence as described under 4.00 F.G. or H.

E. *Chest pain of cardic origin* is considered to be pain which is precipitated by effort and promptly relieved by sublingual nitroglycerin or rapid-acting nitrates or rest. The character of the pain is classically described as crushing squeezing, burning, or oppressive pain located in the chest. Excluded is sharp, sticking or rhythmic pain. Pain occurring on exercise should be described specifically as to usual inciting factors (kind and degree), character, location, radiation, duration, and responses to nitroglycerin or rest.

So-called "anginal equivalent" locations manifested by pain in the throat, arms, or hands have the same validity as the chest pain described above. Status anginosus and variant angina of the Prinzmetal type (e.g., test angina with transitory ST elevation on electrocardiogram) will be considered to have the same validity as classical angina pectoris as described above. Shortness of breath as an isolated finding should not be considered as an anginal equivalent.

Chest pain that appears to be of cardiac origin may be caused by noncoronary conditions. Evidence for the latter should be actively considered in determining whether the chest pain is of cardiac origin. Among the more common conditions which may masquerade as angina are gastrointestinal tract lesions such as biliary tract disease, esophagitis, hiatal hernia, peptic ulcer, and pancreatitis; and musculoskeletal lesions such as costochondritis and cervical arthritis.

F. *Documentation of electrocardiography.*

1. *Electrocardiograms obtained at rest* must be submitted in the original or a legible copy of a 12-lead tracing appropriately labeled, with the standardization inscribed on the tracing. Alteration in standardization of specific leads (such as to accommodate large ORS amplitudes) must be shown on those leads.

The effect of drugs, electrolyte imbalance, etc., should be considered as possible noncoronary causes of ECG abnormalities, especially those involving the ST segment. If needed and available, pre-drug (especially predigitalis) tracing should be obtained.

The term "ischemic" is used in 4.04 to describe a pathologic ST deviation. Nonspecific repolarization changes should not be confused with ischemic configurations or a current of injury.

Detailed descriptions or computer interpretations without the original or legible copies of the ECG are not acceptable.

2. *Electrocardiograms obtained in conjunction with exercise tests* must include the original tracings or a legible copy of apropriate leads obtained before, during, and after exercise. Test control tracings, taken before exercise in the upright position, must be obtained. An ECG after 20 seconds of vigorous hyperventilation should be obtained. A posthyperventilation tracing may be essential for the proper evaluation of an "abnormal" test in certain circumstances, such as in women with evidence of mitral valve prolapse. A tracing should be taken at approximately 5 METs of exercise and at the time the ECG becomes abnormal according to the criteria in 4.04A. The time of onset of these abnormal changes must be noted, and the ECG tracing taken at the time should be obtained. Exercise histograms without the original tracings or legible copies are not acceptable.

Whenever electrocardiographically documented stress test data are submitted, irrespective of the type, the standardization must be inscribed on the tracings and the strips must be labeled appropriately, indicating the times recorded. The degree of exercise achieved, the blood pressure levels during the test, and any reason for terminating the test must be included in the report.

G. *Exercise testing.*

1. *When to purchase.* Since the results of a treadmill exercise test are the primary basis for adjudicating claims under 4.04, they should be included in the file whenever they have been performed. There are also circumstances under which it will be appropriate to purchase exercise tests. Generally, these are limited to claims involving chest pain which is considered to

be of cardiac origin but without corroborating ECG or other evidence of ischemic heart disease.

Exercise test should not be purchased in the absence of alleged chest pain of cardiac origin. Even in the presence of an allegation of chest pain of cardiac origin, an exercise test should not be purchased where full development short of such a purchase reveals that the impairment meets or equals any Listing or the claim can be adjudicated on some other basis.

2. *Methodology.* When an exercise test is purchased, it should be a treadmill type using a continuous progressive multistage regimen. The targeted heart rate should be not less than 85 percent of the maximum predicted heart rate unless it becomes hazardous to exercise to the heart rate or becomes unnecessary because the ECG meets the criteria in 4.04A at a lower heart rate (see also 4.00F.2). Beyond these requirements, it is prudent to accept the methodology of a qualified, competent test facility. In any case, a precise description of the protocol that was followed must be provided.

3. *Limitations of exercise testing.* Exercise testing should not be purchased for individuals who have the following: unstable progressive angina pectoris; recent onset (approximately 2 months) of angina; congestive heart failure; uncontrolled serious arrhythmias (including uncontrolled auricular fibrillation); second or third-degree heart block; Wolff-Parkinson-White syndrome; uncontrolled marked hypertension; marked aortic stenosis; marked pulmonary hypertension; dissecting or ventricular aneurysms; acute illness; limiting neurological or musculoskeletal impairments; or for individuals on medication where performance of stress testing may constitute a significant risk.

The presence of noncoronary or nonischemic factors which may influence the ECG response to exercise include hypokalemia, hyperventilation, vasoregulatory asthenia, significant anemia, left bundle branch block, and other heart disease, particulary valvular.

Digitalis may cause ST segment abnormalities at rest, during, and after exercise. Digitalis-related ST depression, present at rest, may become accentuated and result in false interpretations of the ECG taken during or after exercise test.

4. *Evaluation.* Where the evidence includes the results of a treadmill exercise test, this evidence is the primary basis for adjudicating claims under 4.04. For purposes of this Social Security disability program, treadmill exercise testing will be evaluated on the basis of the level at which the test becomes positive in accordance with the ECG criteria in § 404A. However, the significance of findings of a treadmill exercise test must be considered in light of the clinical course of the disease which may have occurred subsequent to performance of the exercise test. The criteria in 4.04B are not applicable if there is documentation of an acceptable treadmill exercise test, it there is no evidence of a treadmill exercise test or if the test is not acceptable, the criteria in 4.04B should be used. The level of exercise is considered in terms of multiples of MET's (metabolic equivalent units). One MET is the basal O_2 requirement of the body in an inactive state, sitting quiely. It is considered by most authorities to be approximately 3.5 ml. O_2/kg./min.

H. Angiographic evidence.

1. *Coronary arteriography.* This procedure is not to be purchased by the Social Security Administration. Should the results of such testing be available, the report should be considered as to the quality and kind of data provided and its applicability to the requirements of the Listing of Impairments. A copy of the report of the catheterization and ancillary studies should be obtained. The report should provide information as to the technique used, the method of assessing coronary lumen diameter, and the nature and location of any obstructive lesions.

It is helpful to know the method used, the number of projections, and whether selective engagement of each coronary vessel was satisfactorily accomplished. It is also important to know whether the injected vessel was entirely and uniformly opacified, thus avoiding the artifactual appearance of narrowing or an obstruction.

Coronary artery spasm induced by intracoronary catheterization is not to be considered as evidence of ischemic heart disease.

Estimation of the functional significance of an obstructive lesion may also be aided by description of how well the distal part of the vessel is visualized. Some patients with significant proximal coronary atherosclerosis have well-developed large collateral blood supply to the distal vessels without evidence of myocardial damage or ischemia, even under conditions of severe stress.

2. *Left ventriculography.* The report should describe the local contractility of the myocardium as may be evident from areas of hypokinesia, dyskinesia, or akinesia; and the overall contractility of the myocardium as measured by the ejection fraction.

3. *Proximal coronary arteries* (see 4.04B7) will be considered as the:

a. Right coronary artery proximal to the acute marginal branch; or

b. Left anterior descending coronary artery proximal to the first septal perforator; or

c. Left circumflex coronary artery proximal to the first obtuse marginal branch.

I. Results of other tests. Information from adequate reports of other tests such as radionuclide studies or echocardiography should be considered where that information is comparable to the requirements in the listing. An ejection fraction measured by echocardiography is not determinative, but may be given consideration in the context of associated findings.

J. Major surgical procedures. The amount of function restored and the time required to effect improvement after heart or vascular surgery vary with the nature and extent of the disorder, the type of surgery, and other individual factors. If the criteria described for heart or vascular disease are met, proposed heart or vascular surgery (coronary artery bypass procedure, valve replacement, major arterial grafts, etc.) does not militate against a finding of disability with subsequent assessment postoperatively.

The usual time after surgery for adequate assessment of the results of surgery is considered to be approximately 3 months. Assessment of the magnitude of the impairment following surgery requires adequate documentation of the pertinent evaluations and tests performed following surgery, such as an interval history and physical examination, with emphasis on those signs and symptoms which might have changed postoperatively, as well as X-rays and electrocardiograms. Where treadmill exercise tests or angiography have been performed following the surgical procedure, the results of these tests should be obtained.

Documentation of the preoperative evaluation and a description of the surgical procedure are also required. The evidence should be documented from hospital records (catheterization reports, coronary arteriographic reports, etc.) and the operative note.

Implantation of a cardiac pacemaker is not considered a major surgical procedure for purposes of this section.

K. Evaluation of peripheral arterial disease. The evaluation of peripheral arterial disease is based on medically acceptable clinical findings providing adequate history and physical examination findings describing the impairment, and on documentation of the appropriate laboratory techniques. The specific findings stated in Listing 4.13 represent the level of severity of that impairment; these findings, by themselves, are not intended to represent the basis for establishing the clinical diagnosis. The level of the impairment is based on the symptomatology, physical findings, Doppler studies before and after a standard exercise test, and/or angiographic findings.

The requirements for evaluation of peripheral arterial disease in Listing 4.13B are based on the ratio of systolic blood pressure at the ankle, determined by Doppler study, to the systolic blood pressure at the brachial artery determined at the same time. Results of plethysmographic studies, or other techniques providing systolic blood pressure determinations at the ankle, should be considered where the information is comparable to the requirements in the listing.

Listing 4.13B.1 provides for determining that the listing is met when the resting ankle/brachial systolic blood pressure ratio is less than 0.50. Listing 4.13B.2 provides additional criteria for evaluating peripheral arterial impairment on the basis of exercise studies when the resting ankle/brachial systolic blood pressure ratio is 0.50 or above. The results of excercise studies should describe the level of exercise (e.g., speed and grade of the treadmill settings), the duration of exercise, symptoms during exercise, the reasons for stopping exercise if the expected level of exercise was not attained, blood pressures at the ankle and other pertinent levels measured after exercise, and the time required to return the systolic blood pressure toward or to, the preexercise level. When exercise Doppler studies are purchased by the Social Security Administration, it is suggested that the requested exercise be on a treadmill at 2 mph, on a 12 percent grade for 5 minutes. Exercise studies should not be performed on individuals for whom exercise is contraindicated. The methodology of a

qualified, competent facility should be accepted. In any case, a precise description of the protocol that was followed must be provided.

It must be recognized that application of the criteria in Listing 4.13B may be limited in individuals who have severe calcific (Monckeberg's) sclerosis of the peripheral arteries or severe small vessel disease in individuals with diabetes mellitus.

4.01 Category of Impairments, Cardiovascular System

4.02 *Congestive heart failure (manifested by evidence of vascular congestion such as hepatomegaly, peripheral or pulmonary edema).* With:

A. Persistent congestive heart failure on clinical examination despite prescribed therapy; or

B. Persistent left ventricular enlargement and hypertrophy documented by both:

1. Extension of the cardiac shadow (left ventricle) to the vertebral column on a left lateral chest roentgenogram; and

2. ECG showing QRS duration less than 0.12 second with S_{v1} plus R_{v5} (or R_{v6}) of 35 mm. or greater *and* ST segment depressed more than 0.5 mm. *and* low, diphasic or inverted T waves in leads with tall R waves; or

C. Persistent "mitral" type heart involvement documented by left atrial enlargement shown by double shadow on PA chest roentgenogram (or characteristic distortion of barium-filled esophagus) and either:

1. ECG showing QRS duration less than 0.12 second with S_{v1} plus R_{v5} (or R_{v6}) of 35 mm. or greater *and* ST segment depressed more than 0.5 mm. *and* low, diphasic or inverted T wavers in leads with tall R waves, or

2. ECG evidence of right ventricular hypertrophy with R wave of 5.0 mm. or greater in lead V_1 *and* progressive decrease in R/S amplitude from lead V_1 to V_5 or V_6; or

D. Cor pulmonale (non-acute) documented by both:

1. Right ventricular enlargement (or prominence of the right out-flow tract) on chest roentgenogram or fluoroscopy; and

2. ECG evidence of right ventricular hypertrophy with R wave of 5.0 mm. or greater in lead V_1 *and* progressive decrease in R/S amplitude from lead V_1 to V_5 or V_6

4.03 *Hypertensive vascular disease.* Evaluate under 4.02 04 4.04 or under the criteria for the affected body system.

4.04 *Ischemic heart disease with chest pain or cardiac origin as described in 4.00E* With:

A. Treadmill exercise test (see 4.00 F and (G) demonstrating one of the following at an exercise level of 5 METs or less:

1. Horizontal or downsloping depression (from the standing control) of the ST segment to 1.0 mm. or greater, lasting for at least 0.08 second after the J junction, and clearly discernible in at least two consecutive complexes which are on a level baseline in any lead; or

2. Junctional depression occurring during exercise, remaining depressed (from the standing control) to 2.0 mm. or greater for at least 0.08 second after the J junction (the so-called slow upsloping ST segment), and clearly discernible in at least two consecutive complexes which are on a level baseline in any lead; or

3. Premature ventricular systoles which are multiform or bidirectional or are sequentially inscribed (3 or more); or

4. ST segment elevation (from the standing control) to 1 mm. or greater; or

5. Development of second or third degree heart block; or

B. In the absence of a report of an acceptable treadmill exercise test (see 4.00G), one of the following:

1. Transmural myocardial infarction exhibiting a QS pattern or a Q wave with amplitude at least ⅓rd of R wave and with a duration of 0.04 second or more. (If these are present in leads III and a VF only, the requisite Q wave findings must be shown, by labelled tracing, to persist on deep inspiration); or

2. Resting ECG findings showing ischemic-type (see § 4.00F1) depression of ST segment to more than 0.5 mm. in either (a) leads I and a VL and V_6 or (b) leads II and III and a VF or (c) leads V_3 through V_6; or

3. Resting ECG findings showing an ischemic configuration or current of injury (see 4.00F1) with ST segment elevation to 2 mm. or more in either (a) leads I and a VL and V_6 or (b) leads II and III and a VF or (c) leads V_3 through V_6; or

4. Resting ECG findings showing symmetrical inversion of T waves to 5.0 mm. or more in any two leads except leads III or aVR or V_1 or V_2; or

5. Inversion of T wave to 1.0 mm. or more in any of leads I, II, aVL, V_3 to V_6 *and* R wave of 5.0 mm. or more in lead aVL *and* R wave greater than S wave in lead aVF; or

6. "Double" Master Two-Step test demonstrating one of the following:

a. Ischemic depression of ST segment to more than 0.5 mm. lasting for at least 0.08 second beyond the J junction and clearly discernible in at least two consecutive complexes which are on a level baseline in any lead; or

b. Development of a second or third degree heart block; or

7. Angiographic evidence (see 4.00H) (obtained independent of Social Security disability evaluation) showing one of the following:

a. 50 percent or more narrowing of the left main coronary artery; or

b. 70 percent or more narrowing of a *proximal* coronary artery (see 4.00H3) (excluding the left main coronary artery); or

c. 50 percent or more narrowing involving a long (greater than 1 cm.) segment of a proximal coronary artery or multiple proximal coronary arteries; or

8. Akinetic or hypokinetic myocardial wall or septal motion with left ventricular ejection fraction of 30 percent of less measured by contrast or radio-isotopic ventriculographic methods; or

C. Resting ECG findings showing left bundle branch block as evidenced by QRS duration of 0.12 second or more in leads I, II, or III *and* R peak duration of 0.06 second or more in leads I, aVL, V_5, or V_6, unless there is a coronary angiogram of record which is negative (see criteria in 4.04B7).

4.05 *Recent arrhythmias* (not due to digitalis toxicity) resulting in uncontrolled repeated episodes of cardiac syncope and documented by resting or ambulatory (Holter) electrocardiography.

4.09 *Myocardiopathies, rheumatic or syphilitic heart disease.* Evaluate under the criteria in 4.02, 4.04, 4.05, or 11.04.

4.11 *Aneurysm of aorta or major branches* (demonstrated by roentgenographic evidence). With:

A. Acute or chronic dissection not controlled by prescribed medical or surgical treatment; or

B. Congestive heart failure as described under the criteria in 4.02; or

C. Renal failure as described under the criteria in 6.02; or

D. Repeated syncopal episodes.

4.12 *Chronic venous insufficiency* of the lower extremity with incompetency or obstruction of the deep venous return, associated with superficial varicosities, extensive brawny edema, stasis dermatitis, and recurrent or persistent ulceration which has not healed following at least 3 months of prescribed medical or surgical therapy.

4.13 *Peripheral arterial disease.* With:

A. Intermittent claudication with failure to visualize (on arteriogram obtained independent of Social Security disability evaluation) the common femoral or deep femoral artery in one extremity; or

B. Intermittent claudication with marked impairment of peripheral arterial circulation as determined by Doppler studies showing:

1. Resting ankle/brachial systolic blood pressure ratio of less than 0.50; or

2. Decrease in systolic blood pressure at ankle or exercise (see 4.00K) to 50 percent or less of preexercise level *and* requiring 10 minutes or more to return to prexercise level; or

C. Amputation at or above the tarsal region due to peripheral arterial disease.

5.00 Digestive System

A. *Disorders of the digestive system* which result in a marked impairment usually do so because of interference with nutrition, multiple recurrent inflammatory lesions, or complications of disease, such as fistulae, abscesses, or recurrent obstruction. Such complications usually respond to treatment. These complications must be shown to persist on repeated examinations despite therapy for a reasonable presumption to be made that a marked impairment will last for a continuous period of at least 12 months.

B. *Malnutrition or weight loss from gastrointestinal disorders.* When the primary disorder of the digestive tract has been established (e.g. enterocolitis, chronic pancreatitis, postgastrointestinal resection, or esophageal stricture, stenosis, or obstruction), the resultant interference with nutrition will be considered under the criteria in 5.08. This will apply whether the weight loss is due to primary or secondary disorders, of malabsorption, malassimilation or obstruction. However, weight loss not due to diseases of the digestive tract, but associated with psychiatric or primary endocrine or other disorders, should be evaluated under

the appropriate criteria for the underlying disorder.

C. *Surgical diversion of the intestinal tract,* including colostomy or ileostomy, are not listed since they do not represent impairments which preclude all work activity if the individual is able to maintain adequate nutrition and function of the stoma. Dumping syndrome which may follow gastric resection rarely represents a marked impairment which would continue for 12 months. Peptic ulcer disease with recurrent ulceration after definitive surgery ordinarily responds to treatment. A recurrent ulcer after definitive surgery must be demonstrated on repeated upper gastrointestinal roentgenograms or gastroscopic examinations despite therapy to be considered a severe impairment which will last for at least 12 months. Definitive surgical procedures are those designed to control the ulcer disease process (i.e., vagotomy and pyloroplasty, subtotal gastrectomy, etc.). Simple closure of a perforated ulcer does not constitute definitive surgical therapy for peptic ulcer disease.

5.01 Category of Impairments, Digestive System

5.02 *Recurrent upper gastrointestinal hemorrhage from undetermined cause* with anemia manifested by hematocrit of 30 percent or less on repeated examinations.

5.03 *Stricture, stenosis, or obstruction of the esophagus (demonstrated by X-ray or endoscopy)* with weight loss as described under § 5.08.

5.04 *Peptic ulcer disease (demonstrated by X-ray or endoscopy)* With:

A. Recurrent ulceration after definitive surgery persistent despite therapy; or

B. Inoperable fistula formation; or

C. Recurrent obstruction demonstrated by X-ray or endoscopy; or

D. Weight loss as described under § 5.08.

5.05 *Chronic liver disease (e.g., portal, postnecrotic , or biliary cirrhosis; chronic active hepatitis; Wilson's disease).* With:

A. Esophageal varices (demonstrated by X-ray or endoscopy) with a documented history of massive hemorrhage attributable to these varices. Consider under a disability for 3 years following the last massive hemorrhage; thereafter, evaluate the residual impairment; or

B. Performance of a shunt operation for esophageal varices. Consider under a disability for 3 years following surgery; thereafter, evaluate the residual impairment; or

C. Serum bilirubin of 2.5 mg. per deciliter (100 ml.) or greater persisting on repeated examinations for at least 5 months; or

D. Ascites, not attributable to other causes, recurrent or persisting for at least 5 months, demonstrated by abdominal paracentesis or associated with persistent hypoalbuminemia of 3.0 gm. per deciliter (100 ml.) or less; or

E. Hepatic encephalopathy. Evaluate under the criteria in listing 12.02; or

F. Confirmation of chronic liver disease by liver biopsy (obtained independent of Social Security disability evaluation) and one of the following:

1. Ascites not attributable to other causes, recurrent or persisting for at least 3 months, demonstrated by abdominal paracentesis or associated with persistent hypoalbuminemia of 3.0 gm. per deciliter (100 ml.) or less; or

2. Serum bilirubin of 2.5 mg. per deciliter (100 ml) or greater on repeated examinations for at least 3 months; or

3. Hepatic cell necrosis or inflammation, persisting for at least 3 months, documented by repeated abnormalities of prothrombin time and enzymes indicative of hepatic dysfunction.

5.06 [*Chronic ulcerative or granulomatous colitis (demonstrated by endoscopy, barium enema, biopsy, or operative findings).* With:

A. Recurrent bloody stools documented on repeated examinations and anemia manifested by hematocrit of 30 percent or less on repeated examinations; or

B. Persistent or recurrent systemic manifestations, such as arthritis, iritis, fever, or liver dysfunction, not attributable to other causes; or

C. Intermittent obstruction due to intractable abscess, fistula formation, or stenosis; or

D. Recurrence of findings of A, B, or C above after total colectomy; or

E. Weight loss as described under § 5.08.

5.07 *Regional enteritis (demonstrated by operative findings, barium studies, biopsy, or endoscopy).* With:

A. Persistent or recurrent intestinal obstruction evidenced by abdominal pain, distention, nausea, and vomiting and accompanied by stenotic areas of small bowel with proximal intestinal dilation; or

B. Persistent or recurrent systemic manifestations such as arthritis, iritis, fever, or liver dysfunction, not attributable to other causes; or

C. Intermittent obstruction due to intractable abscess or fistula formation; or

D. Weight loss as described under § 5.08.

5.08 *Weight loss due to any persisting gastrointestinal disorder:* (The following weights are to be demonstrated to have persisted for at least 3 months despite prescribed therapy and expected to persist at this level for at least 12 months.) With:

A. Weight equal to or less than the values specified in Table I or II; or

B. Weight equal to or less than the values specified in Table III or IV and one of the following abnormal findings on repeated examinations:

1. Serum albumin of 3.0 gm. per deciliter (100 ml.) or less; or

2. Hematocrit of 30 percent or less; or

3. Serum calcium of 8.0 mg. per deciliter (100 ml.) (4.0 mEq./L) or less; or

4. Uncontrolled diabetes mellitus due to pancreatic dysfunction with repeated hyperglycemia, hypoglocemia, or ketosis; or

5. Fat in stool of 7 gm. or greater per 24-hour stool specimen; or

6. Nitrogen in stool of 3 gm. or greater per 24-hour specimen; or

7. Persistent or recurrent ascites or edema not attributable to other causes.

Tables of weight reflecting malnutrition scaled according to height and sex—To be used only in connection with 5.08.

TABLE I.—MEN

Height (inches) [1]	Weight (pounds)
61	90
62	92
63	94
64	97
65	99
66	102
67	106
68	109
69	112
70	115
71	118
72	122
73	125
74	128
75	131
76	134

[1] Height measured without shoes.

TABLE II.—WOMEN

Height (inches) [1]	Weight (pounds)
58	77
59	79
60	82
61	84
62	86
63	89
64	91
65	94
66	98
67	101
68	104
69	107
70	110
71	114
72	117
73	120

[1] Height measured without shoes.

TABLE III.—MEN

Height (inches) [1]	Weight (pounds)
61	95
62	98
63	100
64	103
65	106
66	109
67	112
68	116
69	119
70	122
71	126
72	129
73	133
74	136
75	139
76	143

[1] Height measured without shoes.

TABLE IV.—WOMEN

Height (inches) [1]	Weight (pounds)
58	82
59	84
60	87
61	89
62	92
63	94
64	97
65	100
66	104
67	107
68	111
69	114
70	117
71	121
72	*24

TABLE IV.—WOMEN—Continued

Height (inches) [1]	Weight (pounds)
73	128

[1] Height measured without shoes.

6.00 Genito-Urinary System

A. *Determination of the presence of chronic renal disease will be based upon* (1) a history, physical examination, and laboratory evidence of renal disease, and (2) indications of its progressive nature or laboratory evidence of deterioration of renal function.

B. *Nephrotic Syndrome.* The medical evidence establishing the clinical diagnosis must include the description of extent of tissue edema, including pretibial, periorbital, or presacral edema. The presence of ascites, pleural effusion, pericardial effusion, and hydroarthrosis should be described if present. Results of pertinent laboratory tests must be provided. If a renal biopsy has been performed, the evidence should include a copy of the report of microscopic examination of the specimen. Complications such as severe orthostatic hypotension, recurrent infections or venous thromboses should be evaluated on the basis of resultant impairment.

C. *Hemodialysis, peritioneal dialysis, and kidney transplantation.* When an individual is undergoing periodic dialysis because of chronic renal disease, severity of impairment is reflected by the renal function prior to the institution of dialysis.

The amount of function restored and the time required to effect improvement in an individual treated by renal transplant depend upon various factors, including adequacy of post transplant renal function, incidence and severity of renal infection, occurrence of rejection crisis, the presence of systemic complications (anemia, neunropathy, etc.) and side effects of corticosteroids or immunosuppressive agents. A convalesent period of at least 12 months is required before it can be reasonably determined whether the individual has reached a point of stable medical improvement.

D. *Evaluate associated disorders and complications* according to the appropriate body system Listing.

6.01 Category of Impairments, Genito-Urinary System

6.02 Impairment of renal function, due to any chronic renal disease expected to last 12 months (e.g., hypertensive vascular disease, chronic nephritis, nephrolithiasis, polycystic disease, bilateral hydronephrosis, etc.) With:

A. Chronic hemodialysis or peritoneal dialysis necessitated by irreversible renal failure; or

B. Kidney transplant. Consider under a disability for 12 months following surgery; thereafter, evaluate the residual impairment (see 6.00C); or

C. Persistent elevation of serum creatine in to 4 mg. per deciliter (100 ml.) or greater or reduction of creatinine clearance to 20 ml. per minute (29 liters/24 hours) or less, over at least months, with one of the following:

1. Renal osteodystrophy manifested by severe bone pain and appropriate radiographic abnormalities (e.g., osteitis fibrosa, marked osteoporosis, pathologic fractures); or

2. A clinical episode of pericarditis; or

3. Persistent motor or sensory neuropathy; or

4. Intractable pruritus; or

5. Persistent fluid overload syndrome resulting in diastolic hypertension (110 mm. or above) or signs of vascular congestion; or

6. Persistent anorexia with recent weight loss and current weight meeting the values in 5.08, Table III or IV; or

7. Persistent hematocrits of 30 percent or less.

6.06 *Nephrotic syndrome, with significant anasarca, persistent for at least 3 months despite prescribed therapy.* With:

A. Serum albumin of 3.0 gm. per deciler (100 ml.) or less *and* protenuria of 3.5 gm. per 24 hours or greater; or

B. Proteinuria of 10.0 gm. per 24 hours or greater.

7.00 Hemic and Lymphatic System

A. *Impairment caused by anemia* should be evaluated according to the ability of the individual to adjust to the reduced oxygen carrying capacity of the blood. A gradual reduction in red cell mass, even to very low values, is often well tolerated in individuals with a healthy cardiovascular system.

B. *Chronicity is indicated by* persistence of the condition for at least 3 months. The laboratory findings cited must reflect the values reported on more than one examination over that 3-month period.

C. *Sickle cell disease* refers to a chronic hemolytic anemia associated with sickle cell hemoglobin, either homozygous or in combination with thalassemia or with another abnormal hemoglobin (such as C or F).

Appropriate hematologic evidence for sickle cell disease, such as hemoglobin electrophoresis, must be included. Vasoocclusive or aplastic episodes should be documented by description of severity, frequency, and duration.

Major visceral episodes include meningitis, osteomyelitis, pulmonary infections or infarctions, cerebrovascular accidents, congestive heart failure, genito-urinary involvement, etc.

D. *Coagulation defects.* Chronic inherited coagulation disorders must be documented by appropriate laboratory evidence. Prophylactic therapy such as with antihemophilic globulin (AHG) concentrate does not in itself imply severity.

E. *Acute leukemia.* Initial diagnosis of acute leukemia must be based upon definitive bone marrow pathologic evidence. Recurrent disease may be documented by peripheral blood, bone marrow, or cerebrospinal fluid examination. The pathology report must be included.

The acute phase of chronic myelocytic (granulocytic) leukemia should be considered under the requirements for acute leukemia.

The criteria in 7.11 contain the designated duration of disability implicit in the finding of a listed impairment. Following the designated time period, a documented diagnosis itself is no longer sufficient to establish a marked impairment. The level of any remaining impairment must be evaluated on the basis of the medical evidence.

7.01 Category of Impairments, Hemic and Lymphatic System

7.02 *Chronic anemia (hematocrit persisting at 30 percent or less due to any cause).* With:

A. Requirement of one or more blood transfusions on an average of at least once every 2 months; or

B. Evaluation of the resulting impairment under criteria for the affected body system.

7.05 *Sickle cell disease, or one of its variants.* With:

A. Documented painful (thrombotic) crises occurring at least there times during the 5 months prior to adjudication; or

B. Requiring extended hospitalization (beyond emergency care) at least three times during the 12 months prior to adjudication; or

C. Chronic, severe anemia with persistence of hematocrit of 26 percent or less; or

D. Evaluate the resulting impairment under the criteria for the affected body system.

7.06 *Chronic thrombocytopenia (due to any cause)* with platelet counts repeatedly below 40,000/cubic millimeter. With:

A. At least one spontaneous hemorrhage, requiring transfusion, within 5 months prior to adjudication; or

B. Intracranial bleeding within 12 months prior to adjudication.

7.07 *Hereditary telangiectasia* with hemorrhage requiring transfusion at least three times during the 5 months prior to adjudication.

7.08 *Coagulation defects (hemophilia or a similar disorder)* with spontaneous hemorrhage requiring transfusion at least three times during the 5 months prior to adjudication.

7.09 *Polycythemia vera (with erythrocytosis, splenomegaly, and leukocytosis or thrombocytosis).* Evaluate the resulting impairment under the criteria for the affected body system.

7.10 *Myelofibrosis (myeloproliferative syndrome).* With:

A. Chronic anemia. Evaluate according to the criteria of § 7.02; or

B. Documented recurrent systemic bacterial infections occurring at least 3 times during the 5 months prior to adjudication; or

C. Intractable bone pain with radiologic evidence of osteosclerosis.

7.11 *Acute leukemia.* Consider under a disability for 2½ years from the time of initial diagnosis.

7.12 *Chronic leukemia.* Evaluate according to the criteria of 7.02, 7.06, 7.10B, 7.11, 7.17, or 13.06A.

7.13 *Lymphomas.* Evaluate under the criteria in 13.06A.

7.14 *Macroglobulinemia or heavy chain disease,* confirmed by serum or urine protein electrophoresis or immunoelectrophoresias. Evaluate impairment under criteria for affected body system or under 7.02, 7.06, or 7.08.

7.15 *Chronic granulocytopenia (due to any cause).* With both A and B:

A. Absolute neutrophil counts repeatedly below 1,000 cells/cubic millimeter; and

B. Documented recurrent systemic bacterial infections occurring at least 3 times during the 5 months prior to adjudication.

7.16 *Myeloma (confirmed by appropriate serum or urine protein electrophoresis and bone marrow findings).* With:

A. Radiologic evidence of bony involvement with intractable bone pain; or

B. Evidence of renal impairment as described in 6.02; or

C. Hypercalcemia with serum calcium levels persistently greater than 11 mg. per deciliter (100 ml.) for at least 1 month despite prescribed therapy; or

D. Plasma cells (100 or more cells/cubic millimeter) in the peripheral blood.

7.17 *Aplastic anemias or hematologic malignancies (excluding acute leukemia):* With bone marrow transplantation. Consider under a disability for 12 months following transplantation; thereafter, evaluate according to the primary characteristics of the residual impairment.

8.00 Skin

A. *Skin lesions* may result in a marked, long-lasting impairment if they involve extensive body areas or critical areas such as the hands or feet and become resistant to treatment. These lesions must be shown to have persisted for a sufficient period of time despite therapy for a reasonable presumption to be made that a marked impairment will last for a continuous period of at least 12 months. The treatment for some of the skin diseases listed in this section may require the use of high dosage of drugs with possible serious side effects; these side effects should be considered in the overall evaluation of impairment.

B. *When skin lesions are associated with systemic disease* and where that is the predominant problems, evaluation should occur according to the criteria in the appropriate section. Disseminated (systemic) lupus erythematosus and scleroderma usually involve more than one body system and should be evaluated under 10.04 and 10.05. Neoplastic skin lesions should be evaluated under 13.00ff. When skin lesions (including burns) are associated with contractures or limitation of joint motion, that impairment should be evaluated under 1.00ff.

8.01 Category of Impairments, Skin

8.02 *Exfoliative dermatitis, ichthyosis, ichthyosiform erythroderma.* With extensive lesions not responding to prescribed treatment.

8.03 *Pemphigus, erythema multiforme bullosum, bullous pemphigoid, dermatitis herpetiformis.* With extensive lesions not responding to prescribed treatment.

8.04 *Deep mycotic infections. With extensive fungating, ulcerating lesions not responding to prescribed treatment.*

8.05 *Psoriasis, atopic dermatitis, dyshidrosis.* With extensive lesions, including involvement of the hands or feet which impose a marked limitation of function and which are not responding to prescribed treatment.

8.06 *Hydradenitis suppurative, acne conglobata.* With extensive lesions involving the axillae or perineum not responding to prescribed medical treatment and not to surgical treatment.

9.00 Endocrine System

Cause of impairment. Impairment is caused by overproduction or underproduction of hormones, resulting in structural or functional changes in the body. Where involvement of other organ systems has occurred as a result of a primary endocrine disorder, these impairments should be evaluated according to the criteria under the appropriate sections.

9.01 Category of Impairments, Endocrine

9.02 *Thyroid Disorders.* With:

A. Progressive exophthalmos as measured by exophthalmometry; or

B. Evaluate the resulting impairment under the criteria for the affected body system.

9.03 *Hyperparathyroidism.* With:

A. Generalized decalcification of bone on X-ray study and elevation of plasma calcium to 11 mg. per deciliter (100 ml.) or greater; or

B. A resulting impairment. Evaluate according to the criteria in the affected body system.

9.04 *Hypoparathyroidism.* With:

A. Severe recurrent tetany; or

B. Recurrent generalized convulsions; or

C. Lenticular cataracts. Evaluate under the criteria in 2.00ff.

9.05 *Neurohypophyseal insufficiency (diabetes insipidus).* With urine specific gravity of 1.005 or below, persistent for at least 3 months and recurrent dehydration.

9.06 *Hyperfunction of the adrenal cortex.* Evaluate the resulting impairment under the criteria for the affected body system.

9.08 *Diabetes mellitus.* With:

A. Neuropathy demonstrated by significant and persistent disorganization of motor function in two extremities resulting in sustained disturbance of gross and dexterous movements, or gait and station (see 11.00C); or

B. Acidosis occurring at least on the average of once every 2 months documented by appropriate proporiate blood chemical tests (pH or pCO2 or bicarbonate levels); or

C. Amputation at, or above, the tarsal region due to diabetic necrosis or peripheral arterial disease; or

D. Retinitis proliferans; evaluate the visual impairment under the criteria in 2.02, 2.03, or 2.04.

10.00 Multiple Body Systems

A. The impairments included in this section usually involve more than a single body system.

B. Long-term obesity will usually be associated with disorders in the musculoskeletal, cardiovascular, peripheral vascular, and pulmonary systems, and the advent of such disorders is the major cause of impairment. Extreme obesity results in restrictions imposed by body weight and the additional restrictions imposed by disturbances in other body systems.

10.01 Category of Impairments, Multiple Body Systems

10.02 *Hansen's disease (leprosy).* As active disease or consider as "under a disability" while hospitalized.

10.03 *Polyarteritis or periarteritis nodosa (established by biopsy).* With signs of generalized arterial involvement.

10.04 *Disseminated lupus erythematosus (established by a positive LE preparation or biopsy or positive ANA test).* With frequent exacerbations demonstrating involvement of renal or cardiac or pulmonary or gastrointestinal or central nervous systems.

10.05 *Scleroderma or progressive systemic sclerosis (the diffuse or generalized form).* With:

A. Advanced limitation of use of hands due to sclerodactylia or limitation in other joints; or

B. Significant visceral manifestations of digestive, cardiac, or pulmonary impairment.

10.10 *Obesity.* Weight equal to or greater than the values specified in Table I for males, Table II for females (100 percent above desired level) and one of the following:

A. History of pain and limitation of motion in any weight bearing joint or spine (on physical examination) associated with X-ray evidence of arthritis in a weight bearing joint or spine; or

B. Hypertension with diastolic blood pressure persistently in excess of 100 mm. Hg measured with appropriate size cuff; or

C. History of congestive heart failure manifested by past evidence of vascular congestion such as hepatomegaly, peripheral or pulmonary edema; or

D. Chronic venous insufficiency with superficial varicosities in a lower extremity with pain on weight bearing and persistent edema; or

E. Respiratory disease with total forced vital capacity equal to or less than 2.0 L. or a level of hypoxemia at rest equal to or less than the values specified in Table III–A or III–B or III–C.

TABLE I.—MEN

Height without shoes (inches)	Weight (pounds)
60	246
61	252
62	258
63	264
64	270
65	276
66	284
67	294
68	302
69	310
70	318
71	328
72	336
73	346
74	356
75	364
76	374

TABLE II.—WOMEN

Height without shoes (inches)	Weight (pounds)
56	208
57	212
58	218
59	224
60	230
61	236
62	242
63	250
64	258
65	266
66	274

TABLE II.—WOMEN—Continued

Height without shoes (inches)	Weight (pounds)
67	282
68	290
69	298
70	306
71	314
72	322

TABLE III.—A

[Applicable at test sites less than 3,000 feet above sea level]

Arterial PCO_2 (mm. Hg) and	Arterial PO_2 equal to or less than (mm. Hg)
30 or below	65
31	64
32	63
33	62
34	61
35	60
36	59
37	58
38	57
39	56
40 or above	55

TABLE III.—B

[Applicable at test sites 3,000 through 6,000 feet above sea level]

Arterial PCO_2 (mm. Hg) and	Arterial PO_2 equal to or less than (mm. Hg)
30 or below	60
31	59
32	58
33	57
34	56
35	55
36	54
37	53
38	52
39	51
40 or above	50

TABLE III.—C

[Applicable at test sites over 6,000 feet above sea level]

Arterial PCO_2 (mm. Hg) and	Arterial PO_2 equal to or less than (mm. Hg)
30 or below	55
31	54
32	53
33	52
34	51
35	50
36	49
37	48
38	47
39	46
40 or above	45

11.00 Neurological

A. *Convulsive disorders.* In convulsive disorders, regardless of etiology degree of impairment will be determined according to type, frequency, duration, and sequelae of seizures. At least one detailed description of a typical seizure is required. Such descripiton includes the presence or absence of aura, tongue bites, sphincter control, injuries associated with the attack, and postictal phenomena.The reporting physician should indicate the extent to which description of seizures relfects his own observations and the source of ancillary information. Testimony of persons other than the claimant is essential for description of type and frequency of seizures if professional observation is not available.

Documentation of epilepsy should include at least one electronencephalogram (EEG).

Under 11.02 and 11.03, the criteria can be applied only if the impairment persists despite the fact that the individual is following prescribed anticonvulsive treatment. Adherence to prescribed anticonvulsive therepy can ordinarily be determined from objective clinical findings in the report of the physican currently providing treatment for epilepsy. Determination of blood levels of phenytoin sodium or other anticonvulsive drugs may serve to indicate whether the prescribed medication is being taken. When seizures are occurrring at the frequency stated in 11.02 or 11.03, evalution of the severity of the impairment must include consideration of the serum drug levels. Should serum drug levels appear therapeutically inadequate, consideration should be given as to whether this is caused by individual idiosyncrasy in absorption of metabolism of the drug. Blood drug levels should be evaluated in conjunction with all the other evidence to determine the extent of compliance. When the reported blood drug levels are low, therefore, the information obtained from the treating source should include the physician's statement as to why the levels are low and the results of any relevant diagnostic studies concerning the blood levels. Where adequate seizure control is obtained only with unusually large doses, the possibility of impairment resulting from the side effects of this medication must be also assessed. Where documentation shows that use of alcohol or drugs affects adherence to prescribed therapy or may play a part in the precipitation of seizures, this must also be consideration in the overall assessment of impairment level.

B. *Brain tumors.* The diagnosis of malignant brain tumors must be established, and the persistence of the tumor should be evaluated, under the criteria described in 13.00B and C for neoplastic disease.

In histologically malignant tumors, the pathological diagnosis alone will be the decisive criterion for severity and expected duration (see 11.05A). For other tumors of the brain, the severity and duration of the impairment will be determined on the basis of symptoms, signs, and pertintent laboratory findings (11.05B).

C. *Persistent disorganization of motor function* in the form of paresis or paralysis, tremor or other involuntary movements, ataxia and sensory distrubances (any or all of which may be due to cerebral cerbellar, brain stem, spinal cord, or peripheral nerve dysfunction) which occur singly or in various combination, frequently provides the sole or partial basis for decision in cases of neurological impairment. The assessment of impairment depends on the degree of interference with locomotion and/or interference with the use of fingers, hands, and arms.

D. *In conditions which are episodic in character,* such as multiple sclerosis or myasthenia gravis, consideration should be given to frequency and duration of exacerbations, length of remissions, and permanent residuals.

E. *Multiple sclerosis.* The major criteria for evaluating impairment caused by multiple sclerosis are discussed in listing 11.09. Paragraph A provides criteria for evaluating disorganization of motor function and gives reference to 11.04B (11.04B then refers to 11.00C). Paragraph B provides references to other listings for evaluating visual or mental impairments caused by multiple sclerosis. Paragraph C provides criteria for evaluating the impairment of individuals who do not have muscle weakness or other significant disorganization of motor function at rest, but who do develop muscle weakness on activity as a result of fatigue.

Use of the criteria in 11.09C is dependent upon (1) documenting a diagnosis of multiple sclerosis, (2) obtaining a description of fatigue considered to be characteristic of multiple sclerosis, and (3) obtaining evidence that the system has actually become fatigued. The evaluation of the magnitude of the impairment must consider the degree of exercise and the severity of the resulting muscle weakness.

The criteria in 11.09C deals with motor abnormalities which occur on activity. If the disorganization of motor function is present at rest, paragraph A must be used, taking into account any further increase in muscle weakness resulting from activity.

Sensory abnormalities may occur, particularly involving central visual acuity. The decrease in visual acuity may occur after brief attempts at activity involving near vision, such as reading. This decrease in visual acuity may not persist when the specific activity is terminated, as with rest, but is predictably reproduced with resumption of the activity. The impairment of central visual acuity in these cases should be evaluated under the criteria in listing 2.02, taking into account the fact that the decrease in visual acuity will wax and wane.

Clarification of the evidence regarding central nervous system dysfunction responsible for the symptoms may require supporting technical evidence of functional impairment such as evoked response tests during exercise.

11.01 Category of Impairments, Neurological

11.02 *Epilepsy—major motor seizures, (grand mal or psychomotor), documented by EEG and by detailed description of a typical seizure pattern, including all associated phenomena; occurring more frequently than once a month, in spite of at least 3 months of prescribed treatment.* With:

A. Daytime episodes (loss of consciousness and convulsive seizures) or

B. Nocturnal episodes manifesting residuals which interfere significantly with activity during the day.

11.03 *Epilepsy—Minor motor seizures (petit mal, psychomotor, or focal),*

documented by EEG and by detailed description of a typical seizure pattern, including all associated phenomena; occurring more frequently than once weekly in spite of at least 3 months of prescribed treatment. With alteration of awareness or loss of consciousness and transient postictal manifestations of unconventional behavior or significant interference with activity during the day.

11.04 *Central nervous system vascular accident.* With one of the following more than 3 months post-vascular accident:

A. Sensory or motor aphasia resulting in ineffective speech or communication; or

B. Significant and persistent disorganization of motor function in two extremities, resulting in sustained disturbance of gross and dexterous movements, or gait and station (see 11.00C).

11.05 *Brain tumors.*

A. Malignant gliomas (astrocytoma—grades III and IV, glioblastoma multiforme), medulloblastoma, ependymoblastoma, or primary sarcoma; or

B. Astrocytoma (grades I and II), meningioma, pituitary tumors, oligodendroglioma, ependymoma, clivus chordoma, and benign tumors. Evaluate under 11.02, 11.03, 11.04 A, or B, or 12.02.

11.06 *Parkinsonian syndrome* with the following signs: Significant rigidity, brady kinesia, or tremor in two extremities, which, singly or in combination, result in sustained disturbance of gross and dexterous movements, or gait and station.

11.07 *Cerebral palsy.* With:

A. IQ of 69 or less; or

B. Abnormal behavior patterns, such as destructiveness or emotional instability; or

C. Significant interference in communication due to speech, hearing, or visual defect; or

D. Disorganization of motor function as described in 11.04B.

11.08 *Spinal cord or nerve root lesions, due to any cause* with disorganization of motor function as described in 11.04B.

11.09 *Multiple sclerosis.* With:

A. Disorganization of motor function as described in 11.04B; or

B. Visual or mental impairment as described under the criteria in 2.02, 2.03, 2.04, or 12.02; or

C. Significant, reproducible fatigue of motor function with substantial muscle weakness on repetitive activity, demonstrated on physical examination, resulting from neurological dysfunction in areas of the central nervous system known to be pathologically involved by the multiple sclerosis process.

11.10 *Amyotrophic lateral sclerosis. With:*

A. Significant bulbar signs; or

B. Disorganization of motor function as described in 11.04B.

11.11 *Anterior poliomyelitis.* With:

A. Persistent difficulty with swallowing or breathing; or

B. Unintelligible speech; or

C. Disorganization of motor function as described in 11.04B.

11.12 *Myasthenia gravis.* With:

A. Significant difficulty with speaking, swallowing, or breathing while on prescribed therapy; or

B. Significant motor weakness of muscles of extremities on repetitive activity against resistance while on prescribed therapy.

11.13 *Muscular dystrophy* with disorganization of motor function as described in 11.04B.

11.14 *Peripheral neuropathies.*

With disorganization of motor function as described in 11.04B, in spite of prescribed treatment.

11.15 *Tabes dorsalis.*

With:

A. Tabetic crises occurring more frequently than once monthly; or

B. Unsteady, broad-based or ataxic gait causing significant restriction of mobility substantiated by appropriate posterior column signs.

11.16 *Subacute combined cord degeneration (pernicious anemia) with disorganization of motor function as decribed in 11.04B or 11.15B, not significantly improved by prescribed treatment.*

11.17 *Degenerative disease not elsewhere such as Huntington's chorea, Friedreich's ataxia, and spino-cerebellar degeneration.* With:

A. Disorganization of motor function as described in 11.04B or 11.15B; or

B. Chronic brain syndrome. Evaluate under 12.02.

11.18 *Cerebral trauma:*

Evaluate under the provisions of 11.02, 11.03, 11.04 and 12.02, as applicable.

11.19 *Syringomyelia.*

With:

A. Significant bulbar signs; or

B. Disorganization of motor function as described in 11.04B.

12.00 *Mental Disorders.*

* * * * *

13.00 *Neoplastic Diseases, Malignant.*

A. *Introduction:* The determination of the level of impairment resulting from malignant tumors is made from a consideration of the site of the lesion, the histogenesis of the tumor, the extent of involvement, the apparent adequacy and response to therapy (surgery, irradiation, hormones, chemotherapy, etc.), and the magnitude of the post therapeutic residuals.

B. *Documentation:* The diagnosis of malignant tumors should be established on the basis of symptoms, signs, and laboratory findings. The site of the primary, recurrent, and metastatic lesion must be specified in all cases of malignant neoplastic diseases. If an operative procedure has been performed, the evidence should include a copy of the operative note and the report of the gross and microscopic examination of the surgical specimen. If these documents are not obtainable, then the summary of hospitalization or a report from the treating physician must include details of the findings at surgery and the results of the pathologist's gross and microscopic examination of the tissues.

For those cases in which a disabling impairment was not established when therapy was begun but progression of the disease is likely, current medical evidence should include a report of a recent examination directed especially at local or regional recurrence, soft part or skeletal metastases, and significant posttherapeutic residuals.

C. *Evaluation.* Usually, when the malignant tumor consists of a local lesion with metastases to the regional lymph nodes which apparently has been completely excised, imminent recurrence or metastases is not anticipated. A number of exceptions are noted in the specific Listings. For adjudicative purposes, "distant metastases" or "metastases beyond the regional lymph nodes" refers to metastasis beyond the lines of the usual radical en bloc resection.

Local or regional recurrence after radical surgery or pathological evidence of incomplete excision by radical surgery is to be equated with unresectable lesions (except for carcinoma of the breast, 13.09C) and, for the purposes of our program, may be evaluated as "inoperable."

Local or regional recurrence after incomplete excision of a localized and still completely resectable tumor is not to be equated with recurrence after radical surgery. In the evaluation of lymphomas, the tissue type and site of involvement are not necessarily indicators of the degree of impairment.

When a malignant tumor has metastasized beyond the regional lymph nodes, the impairment will usually be found to meet the requirements of a specific listing. Exceptions are hormone-dependent tumors, isotope-sensitive metastases, and metastases from seminoma of the testicles which are controlled by definitive therapy.

When the original tumor and any metastases have apparently disappeared and have not been evident for 3 or more years, the impairment does not meet the criteria under this body system.

D. *Effects of therapy.* Significant posttherapeutic residuals, not specifically included in the category of impairments for malignant neoplasms, should be evaluated according to the affected body system.

Where the impairment is not listed in the Listing of Impairments and is not medically equivalent to a listed impairment, the impact of any residual impairment including that caused by therapy must be considered. The therapeutic regimen and consequent adverse response to therapy may vary widely; therefore, each case must be considered on an individual basis. It is essential to obtain a specific description of the therapeutic regimen, including the drugs given, dosage, frequency of drug administration, and plans for continued drug administration. It is necessary to obtain a description of the complications or any other adverse response to therapy such as nausea, vomiting, diarrhea, weakness, dermatologic disorders, or reactive mental disorders. Since the severity of the adverse effects of anticancer chemotherapy may change during the period of drug administration, the decision regarding the impact of drug therapy should be based on a sufficient period of therapy to permit proper consideration.

E. *Onset.* To establish onset of disability prior to the time a malignancy is first demonstrated to be inoperable or beyond control by other modes of therapy (and prior evidence is nonexistent) requires medical

judgment based on medically reported symptoms, the type of the specific malignancy, its location, and extent of involvement when first demonstrated.

13.01 Category of Impairments, Neoplastic Diseases—Malignant

13.02 *Head and neck* (except salivary glands—13.07, thyroid gland—13.08, and mandible, maxilla, orbit, or temporal fossa—13.11):
A. Inoperable; or
B. Not controlled by prescribed therapy; or
C. Recurrent after radical surgery or irradiation; or
D. With distant metastases; or
E. Epidermoid carcinoma occurring in the pyriform sinus or posterior third of the tongue.

13.03 *Sarcoma of Skin:*
A. Angiosarcoma with metastases to regional lymph nodes or beyond; or
B. Mycosis fungoides with metastases to regional lymph nodes, or with visceral involvement.

13.04 *Sarcoma of soft parts:* Not controlled by prescribed therapy.

13.05 *Malignant melanoma:*
A. Recurrent after wide excision; or
B. With metastases to adjacent skin (satellite lesions) or elsewhere.

13.06 *Lymph nodes:*
A. Hodgkin's disease or non-Hodgkin's lymphoma with progressive disease not controlled by prescribed therapy; or
B. Metastatic carcinoma in a lymph node (except for epidermoid carcinoma in a lymph node in the neck) where the primary site is not determined after adequate search; or
C. Epidermoid carcinoma in a lymph node in the neck not responding to prescribed therapy.

13.07 *Salivary glands*—carcinoma or sarcoma with metastases beyond the regional lymph nodes.

13.08 *Thyroid gland*—carcinoma with metastases beyond the regional lymph nodes, not controlled by prescribed therapy.

13.09 *Breast:*
A. Inoperable carcinoma; or
B. Inflammatory carcinoma; or
C. Recurrent carcinoma, except local recurrence controlled by prescribed therapy; or
D. Distant metastases from breast carcinoma (bilateral breast carcinoma, synchronous or metachronous is usually primary in each breast); or
E. Sarcoma with metastases anywhere.

13.10 *Skeletal system* (exclusive of the jaw):
A. Malignant primary tumors with evidence of metastases and not controlled by prescribed therapy; or
B. Metastatic carcinoma to bone where the primary site is not determined after adequate search.

13.11 *Mandible, maxilla, orbit, or temporal fossa:*
A. Sarcoma of any type with metastases; or
B. Carcinoma of the antrum with extension into the orbit or ethmoid or sphenoid sinus, or with regional or distant metastases; or
C. Orbital tumors with intracranial extension; or
D. Tumors of the temporal fossa with perforation of skull and meningeal involvement; or
E. Adamantinoma with orbital or intracranial infiltration; or
F. Tumors of Rathke's pouch with infiltration of the base of the skull or metastases.

13.12 *Brain or spinal cord:*
A. Metastatic carcinoma to brain or spinal cord.
B. Evaluate other tumors under the criteria described in 11.05 and 11.06.

13.13 *Lungs.*
A. Unresectable or with incomplete excision; or
B. Recurrence or metastases after resection; or
C. Oat cell (small cell) carcinoma; or
D. Squamous cell carcinoma, with metastases beyond the hilar lymph nodes; or
E. Other histologic types of carcinoma, including undifferentiated and mixed-cell types (but excluding oat cell carcinoma, 13.13C, and squamous cell carcinoma, 13.13D), with metastases to the hilar lymph nodes.

13.14 *Pleura or mediastinum:*
A. Malignant mesothelioma of pleura; or
B. Malignant tumors, metastatic to pleura; or
C. Malignant primary tumor of the mediastinum not controlled by prescribed therapy.

13.15 *Abdomen:*
A. Generalized carcinomatosis; or
B. Retroperitoneal cellular sarcoma not controlled by prescribed therapy; or
C. Ascites with demonstrated malignant cells.

13.16 *Esophagus or stomach:*
A. Carcinoma or sarcoma of the esophagus; or
B. Carcinoma of the stomach with metastases to the regional lymph nodes or extension to surrounding structure; or
C. Sarcoma of stomach not controlled by prescribed therapy; or
D. Inoperable carcinoma; or
E. Recurrence or metastases after resection.

13.17 *Small intestine:*
A. Carcinoma, sarcoma, or carcinoid tumor with metastases beyond the regional lymph nodes; or
B. Recurrence of carcinoma, sarcoma, or carcinoid tumor after resection; or
C. Sarcoma, not controlled by prescribed therapy.

13.18 *Large intestine* (from ileocecal valve to and including anal canal)—Carcinoma or sarcoma.
A. Unresectable; or
B. Metastases beyond the regional lymph nodes, or
C. Recurrence or metastases after resection.

13.19 *Liver or gallbladder:*
A. Primary or metastatic malignant tumors of the liver; or
B. Carcinoma of the gallbladder; or
C. Carcinoma of the bile ducts.

13.20 *Pancreas:*
A. Carcinoma except islet cell carcinoma; or
B. Islet cell carcinoma which is unresectable and physiologically active.

13.21 *Kidneys, adrenal glands, or ureters—carcinoma:*
A. Unresectable; or
B. With hematogenous spread to distant sites; or
C. With metastases to regional lymph nodes.

13.22 *Urinary bladder—carcinoma.* With:
A. Infiltration beyond the bladder wall; or
B. Metastases to regional lymph nodes; or
C. Unresectable; or
D. Recurrence after total cystectomy; or
E. Evaluate renal impairment after total cystectomy under the criteria in 6.02.

13.23 *Prostate gland*—carcinoma not controlled by prescribed therapy.

13.24 *Testicles:*
A. Choriocarcinoma; or
B. Other malignant primary tumors with progressive disease not controlled by prescribed therapy.

13.25 *Uterus*—carcinoma or sarcoma (corpus or cervix).
A. Inoperable and not controlled by prescribed therapy; or
B. Recurrent after total hysterectomy; or
C. Total pelvic exenteration

13.26 *Ovaries*—all malignant, primary or recurrent tumors. With:
A. Ascites with demonstrated malignant cells; or
B. Unresectable infiltration; or
C. Unresectable metastases to omentum or elsewhere in the peritoneal cavity; or
D. Distant metastases.

13.27 *Leukemia:* Evaluate under the criteria of 7.00ff, Hemic and Lymphatic Sytem.

13.28 *Uterine (Fallopian) tubes—carcinoma or sarcoma:*
A. Unresectable, or
B. Metastases to regional lymph nodes.

13.29 *Penis—carcinoma with metastases to regional lymph nodes.*

13.30 *Vulva—carcinoma, with distant metastases.*

Part B

Medical criteria for the evaluation of impairments of children under age 18 (where criteria in Part A do not give appropriate consideration to the particular disease process in childhood).

Sec.
100.00 Growth Impairment.

Sec.
101.00 Musculoskeletal System.
102.00 Special Senses and Speech.
103.00 Respiratory System.
104.00 Cardiovascular System.
105.00 Digestive System.
106.00 Genito-Urinary System.
107.00 Hemic and Lymphatic System.
109.00 Endocrine System.
110.00 Multiply Body Systems.
111.00 Neurological.
112.00 Mental and Emotional Disorders.
113.00 Neoplastic Diseases, Malignant.

100.00 Growth impairment

A. *Impairment of growth* may be disabling in itself or it may be an indicator of the severity of the impairment due to a specific disease process.

Determinations of growth impairment should be based upon the comparison of current height with at least three previous determinations, including length at birth, if available. Heights (or lengths) should be plotted on a standard growth chart, such as derived from the National Center for Health Statistics: NCHS Growth Charts. Height should be measured without shoes. Body weight corresponding to the ages represented by the heights should be furnished. The adult heights of the child's natural parents and the heights and ages of siblings should also be furnished. This will provide a basis upon which to identify those children whose short stature represents a familial characteristic rather than a result of disease. This is particularly true for adjudication under 100.02B.

B. *Bone age determinations* should include a full descriptive report of roentgenograms specifically obtained to determine bone age and must cite the standardization method used. Where roentgenograms must be obtained currently as a basis for adjudication under 100.03, views of the left hand and wrist should be ordered. In addition, roentgenograms of the knee and ankle should be obtained when cessation of growth is being evaluated in an older child at, or past, puberty.

C. The criteria in this section are applicable until closure of the major epiphyses. The cessation of significant increase in height at that point would prevent the application of these criteria.

100.01 Category of impairments, growth

100.02 *Growth impairment*, considered to be related to an additional specific medically determinable impairment, and one of the following:

A. Fall of greater than 15 percentiles in height which is sustained; or

B. Fall to, or persistence of, height below the third percentile.

100.03 *Growth impairment*, not identified as being related to an additional, specific medically determinable impairment. With:

A. Fall of greater than 25 percentiles in height which is sustained; and

B. Bone age greater than two standard deviations (2 SD) below the mean for chronological age (see 100.00B).

101.00 Musculoskeletal System.

A. *Rheumatoid arthritis.* Documentation of the diagnosis of juvenile rheumatoid arthritis should be made according to an established protocol, such as that published by the Arthritis Foundation, *Bulletin on the Rheumatic Diseases.* Vol. 23, 1972–1973 Series, p 712. Inflammatory signs include persistent pain, tenderness, erythema, swelling, and increased local temperature of a joint.

B. *The measurements of joint motion* are based on the technique for measurements described in the "Joint Method of Measuring and Recording," published by the American Academy of Orthopedic Surgeons in 1965, or "The Extremities and Back" in *Guides to the Evaluation of Permanent Impairment*, Chicago, American Medical Association, 1971, Chapter 1, pp. 1–48.

C. *Degenerative arthritis* may be the end stage of many skeletal diseases and conditions, such as traumatic arthritis, collagen disorders septic arthritis, congenital dislocation of the hip, aseptic necrosis of the hip, slipped capital femoral epiphyses, skeletal dysplasias, etc.

101.01 Category of impairments, musculoskeletal

101.02 *Juvenile rheumatoid arthritis.* With:

A. Persistence or recurrence of joint inflammation despite three months of medical treatment and one of the following:

1. Limitation of motion of two major joints of 50 percent or greater; or

2. Fixed deformity of two major weight-bearing joints of 30 degrees or more; or

3. Radiographic changes of joint narrowing, erosion, or subluxation; or

4. Persistent or recurrent systemic involvement such as iridocyclitis or pericarditis; or

B. Steroid dependence.

101.03 *Deficit of musculoskeletal function* due to deformity or musculoskeletal disease and one of the following:

A. Walking is markedly reduced in speed or distance despite orthotic or prosthetic devices; or

B. Ambulation is possible only with obligatory bilateral upper limb assistance (e.g., with walker, crutches); or

C. Inability to perform age-related personal self-care activities involving feeding, dressing, and personal hygiene.

101.05 *Disorders of the spine.*

A. Fracture of vertebra with cord involvement (substantiated by appropriate sensory and motor loss); or

B. Scoliosis (congenital idiopathic or neuromyopathic). With:

1. Major spinal curve measuring 60 degrees or greater; or

2. Spinal fusion of six or more levels. Consider under a disability for one year from the time of surgery; thereafter evaluate the residual impairment; or

3. FEV (vital capacity) of 50 percent or less of predicted normal values for the individual's measured (actual) height; or

C. Kyphosis or lordosis measuring 90 degrees or greater.

101.08 *Chronic osteomyelitis* with persistence or recurrence of inflammatory signs or drainage for at least 6 months despite prescribed therapy and consistent radiographic findings.

102.00 Special Senses and Speech

A. *Visual impairments in children.* Impairment of central visual acuity should be determined with use of the standard Snellen test chart. Where this cannot be used, as in very young children, a complete description should be provided of the findings using other appropriate methods of examination, including a description of the techniques used for determining the central visual acuity for distance.

The accommodative reflex is generally not present in children under 6 months of age. In premature infants, it may not be present until 6 months plus the number of months the child is premature. Therefore absence of accommodative reflex will be considered as indicating a visual impairment only in children above this age (6 months).

Documentation of a visual disorder must include description of the ocular pathology.

B. *Hearing impairments in children.* The criteria for hearing impairments in children take into account that a lesser impairment in hearing which occurs at an early age may result in a severe speech and language disorder.

Improvement by a hearing aid, as predicted by the testing procedure, must be demonstrated to be feasible in that child, since younger children may be unable to use a hearing aid effectively.

The type of audiometric testing performed must be described and a copy of the results must be included. The pure tone air conduction hearing levels in 102.08 are based on American National Standard Institute Specifications for Audiometers, S3.6–1969 (ANSI–1969). The report should indicate the specifications used to calibrate the audiometer.

The finding of a severe impairment will be based on the average hearing levels at 500, 1000, 2000, and 3000 Hertz (Hz) in the better ear, and on speech discrimination, as specified in § 102.08.

102.01 Category of Impairments, Special Sense Organs

102.02 *Impairments of central visual acuity.*

A. Remaining vision in the better eye after best correction is 20/200 or less; or

B. For children below 3 years of age at time of adjudication:

1. Absence of accommodative reflex (see 102.00A for exclusion of children under 6 months of age); or

2. Retrolental fibroplasia with macular scarring or neovascularization; or

3. Bilateral congenital cataracts with visualization of retinal red reflex only or when associated with other ocular pathology.

102.08 *Hearing impairments.*

A. For children below 5 years of age at time of adjudication, inability to hear air conduction thresholds at an average of 40 decibels (db) hearing level or greater in the better ear; or

B. For children 5 years of age and above at time of adjudication:

1. Inability to hear air conduction thresholds at an average of 70 decibels (db) or greater in the better ear; or

2. Speech discrimination scores at 40 percent or less in the better ear; or

3. Inability to hear air conduction thresholds at an average of 40 decibels (db) or greater in the better ear, and a speech and language disorder which significantly affects the clarity and content of the speech and is attributable to the hearing impairment.

103.00 Respiratory System

A. *Documentation of pulmonary insufficiency.* The reports of spirometric studies for evaluation under Table I must be expressed in liters (BTPS). The reported FEV_1 should represent the largest of at least three satisfactory attempts. The appropriately labeled spirometric tracing of three FEV maneuvers must be submitted with the report, showing distance per second on the abscissa and distance per liter on the ordinate. The unit distance for volume on the

tracing should be at least 15 mm. per liter and the paper speed at least 20 mm. per second. The height of the individual without shoes must be recorded.

The ventilatory function studies should not be performed during or soon after an acute episode or exacerbation of a respiratory illness. In the presence of acute bronchospasm, or where the FEV_1 is less than that stated in Table I, the studies should be repeated after the administration of a nebulized bronchodilator. If a bronchodilator was not used in such instances, the reason should be stated in the report.

A statement should be made as to the child's ability to understand directions and to cooperate in performance of the test, and should include an evaluation of the child's effort. When tests cannot be performed or completed, the reason (such as a child's young age) should be stated in the report.

B. *Cystic fibrosis.* This section discusses only the pulmonary manifestations of cystic fibrosis. Other manifestations, complications, or associated disease must be evaluated under the appropriate section.

The diagnosis of cystic fibrosis will be based upon appropriate history, physical examination, and pertinent laboratory findings. Confirmation based upon elevated concentration of sodium or chloride in the sweat should be included, with indication of the technique used for collection and analysis.

103.01 Category of impairments, respiratory

103.03 *Bronchial asthma.* With evidence of progression of the disease despite therapy and documented by one of the following:

A. Recent, recurrent intense asthmatic attacks requiring parenteral medication; or

B. Persistent prolonged expiration with wheezing between acute attacks and radiographic findings of peribronchial disease.

103.13 *Pulmonary manifestations of cystic fibrosis.* With:

A. FEV_1 equal to or less than the values specified in Table I (see § 103.00A for requirements of ventilatory function testing); or

B. For children where ventilatory function testing cannot be performed:

1. History of dyspnea on mild exertion or chronic frequent productive cough; and

2. Persistent or recurrent abnormal breath sounds, bilateral rales or rhonchi; and

3. Radiographic findings of extensive disease with hyperaeration and bilateral peribronchial infiltration.

TABLE I

Height (in centimeters)	FEV_1 equal to or less than (L, BTPS)
110 or less	0.6
120	0.7
130	0.9
140	1.1
150	1.3
160	1.5
170 or more	1.6

104.00 Cardiovascular System

A. *General.* Evaluation should be based upon history, physical findings, and appropriate laboratory data. Reported abnormalities should be consistent with the pathologic diagnosis. The actual electrocardiographic tracing, or an adequate marked photocopy, must be included. Reports of other pertinent studies necessary to substantiate the diagnosis or describe the severity of the impairment must also be included:

B. *Evaluation of cardiovascular impairment in children* requires two steps:

1. The delineation of a specific cardiovascular disturbance, either congenital or or acquired. This may include arterial or venous disease, rhythm disturbance, or disease involving the valves, septa, myocardium or pericardium; and

2. Documentation of the severity of the impairment, with medically determinable and consistent cardiovascular signs, symptoms, and laboratory data. In cases where impairment characteristics are questionably secondary to the cardiovascular disturbance, additional documentation of the severity of the impairment (e.g., catheterization data, if performed) will be necessary.

C. *Chest roentgenogram* (6 ft. PA film) will be considered indicative of cardiomegaly if:

1. The cardiothoracic ratio is over 60 percent at age one year or less, or 55 percent at more than one year of age; or

2. The cardiac size is increased over 15 percent from any prior chest oentgenograms; or

3. Specific chamber or vessel enlargement is documented in accordance with established criteria.

D. *Tables I, II, and III* below are designed for case adjudication and not for diagnostic purposes. The adult criteria may be useful for older children and should be used when applicable.

E. *Rheumatic fever,* as used in this section assumes diagnosis made according to the revised Jones Criteria.

104.01 Category of impairments, cardiovascular

104.02 *Chronic congestive failure.* With two or more of the following signs:

A. Tachycardia (see Table I).

B. Tachycardia (see Table II).

C. Cardiomegaly on chest roentgenogram (see 104.00C).

D. Hepatomegaly (more than 2 cm. below the right costal margin in the right midclavicular line).

E. Evidence of pulmonary edema, such as rales or orthopnea.

F. Dependent edema.

G. Exercise intolerance manifested as labored respiration on mild exertion (e.g., in an infant, feeding).

TABLE I.—TACHYCARDIA AT REST

Age	Apical Heart (beats per minute)
Under 1 yr	150
1 through 3 yrs	130
4 through 9 yrs	120
10 through 15 yrs	110
Over 15 yr	100

TABLE II.—TACHYPNEA AT REST

Age	Respiratory rate over (per minute)
Under 1 yr	40
1 through 5 yrs	35
6 through 9 yrs	30
Over 9 yrs	25

104.03 *Hypertensive cardiovascular disease.* With persistently elevated blood pressure for age (see Table III) and one of the following:

A. Impaired renal function as described under the criteria in 106.02; or

B. Cerebrovascular damage as described under the criteria in 111.06; or

C. Congestive heart failure as described under the criteria in 104.02.

TABLE III.—ELEVATED BLOOD PRESSURE

Age	S (over) mm.	Diastolic (over) in mm.
Under 6 mo.	95	60
6 mo. to 1 yr	110	70
1 through 8 yrs	115	80
9 through 11 yrs	120	80
12 through 15 yrs	130	80
Over 15 yrs	140	80

104.04 *Cyanotic congenital heart disease.* With one of the following:

A. Surgery is limited to palliative measures; or

B. Characteristic squatting, hemoptysis, syncope, or hypercyanotic spells; or

C. Chronic hematocrit of 55 percent or greater or arterial O_2 saturation of less than 90 percent at rest, or arterial oxygen tension of less than 60 Torr at rest.

104.05 *Cardiac arrhythmia, such as persistent or recurrent heart block or A-V dissociation (with or without therapy).* And one of the following:

A. Cardiac syncope; or

B. Congestive heart failure as described under the criteria in 104.02; or

C. Exercise intolerance with labored respirations on mild exertion (e.g., in infants, feeding).

104.07 *Cardiac syncope* with at least one documented syncopal episode characteristic of specific cardiac disease (e.g., aortic stenosis).

104.08 *Recurrent hemoptysis.* Associated with either pulmonary hypertension or extensive bronchial collaterals due to documented chronic cardiovascular disease.

104.09 *Chronic rheumatic fever or rheumatic heart disease.* With:

A. Persistence of rheumatic fever activity for 6 months or more, with significant murmur(s), cardiomegaly (see 104.00C), and other abnormal laboratory findings (such as

elevated sedimentation rate or electrocardiographic findings); or

B. Congestive heart failure as described under the criteria in 104.02.

105.00 Digestive System

A. *Disorders of the digestive system* which result in disability usually do so because of interference with nutrition and growth, multiple recurrent inflammatory lesions, or other complications of the disease. Such lesions or complications usually respond to treatment. To constitute a listed impairment, these must be shown to have persisted or be expected to persist despite prescribed therapy for a continuous period of at least 12 months.

B. *Documentation of gastrointestinal impairments* should include pertinent operative findings, radiographic studies, endoscopy, and biopsy reports. Where a liver biopsy has been performed in chronic liver disease, documentation should include the report of the biopsy.

C. *Growth retardation and malnutrition.* When the primary disorder of the digestive tract has been documented, evaluate resultant malnutrition under the criteria described in 105.08. Evaluate resultant growth impairment under the criteria described in 100.03. Intestinal disorders, including surgical diversions and potentially correctable congenital lesions, do not represent a severe impairment if the individual is able to maintain adequate nutrition growth and development.

D. *Multiple congenital anomalies.* See related criteria, and consider as a combination of impairments.

105.01 Category of impairments, digestive

105.03 *Esophageal obstruction, caused by atresia, stricture, or stenosis* with malnutrition as described under the criteria in 105.08.

105.05 *Chronic liver disease.* With one of the following:

A. Inoperable billiary atresia demonstrated by X-ray or surgery; or

B. Intractable ascites not attributable to other causes, with serum albumin of 3.0 gm./100 ml. or less; or

C. Esophageal varices (demonstrated by angiography, barium swallow, or endoscopy or by prior performance of a specific shunt or plication procedure); or

D. Hepatic coma, documentated by findings from hospital records; or

E. Hepatic encephalopathy. Evaluate under the criteria in 112.02; or

F. Chronic active inflammation or necrosis documented by SGOT persistently more than 100 units or serum bilirubin of 2.5 mg. percent or greater.

105.07 *Chronic inflammatory bowel disease (such as ulcerative colitis, regional enteritis), as documented in 105.00.* With one of the following:

A. Intestinal manifestations or complications, such as obstruction, abscess, or fistula formation which has lasted or is expected to last 12 months; or

B. Malnutrition as described under the criteria in 105.08; or

C. Growth impairment as described under the criteria in 100.03.

105.08 *Malnutrition, due to demonstrable gastrointestinal disease causing either a fall of 15 percentiles of weight which persists or the persistence of weight which is less than the third percentile (on standard growth charts).* And one of the following:

A. Stool fat excretion per 24 hours:

1. More than 15 percent in infants less than 6 months.

2. More than 10 percent in infants 6–18 months.

3. More than 6 percent in children more than 18 months; or

B. Persistent hematocrit of 30 percent or less despite prescribed therapy; or

C. Serum carotene of 40 mcg./100 ml. or less; or

D. Serum albumin of 3.0 gm./100 ml. or less.

106.00 Genito-Urinary System

A. *Determination of the presence of chronic renal disease* will be based upon the following factors:

1. History, physical examination, and laboratory evidence of renal disease.

2. Indications of its progressive nature or laboratory evidence of deterioration of renal function.

B. *Renal transplant.* The amount of function restored and the time required to effect improvement depend upon various factors including adequacy of post transplant renal function, incidence of renal infection, occurrence of rejection crisis, presence of systemic complications (anemia, neuropathy, etc.) and side effects of corticosteroid or immuno-suppressive agents. A period of at least 12 months is required for the individual to reach a point of stable medical improvement.

C. Evaluate associated disorders and complications according to the appropriate body system listing.

106.01 Category of impairments, genito-urinary

106.02 *Chronic renal disease.* With:

A. Persistent elevation of serum creatinine to 3 mg. per deciliter (100 ml.) or greater over at least 3 months; or

B. Reduction of creatinine clearance to 30 ml. per minute (43 liters/24 hours) per 1.73 m^2 of body surface area over at least 3 months; or

C. Chronic renal dialysis program for irreversible renal failure; or

D. Renal transplant. Consider under a disability for 12 months following surgery; thereafter, evaluate the residual impairment (see 106.00B).

106.06 Nephrotic syndrome, with edema not controlled by prescribed therapy. And:

A. Serum albumin less than 2 gm./100 ml.; or

B. Proteinuria more than 2.5 gm./1.73m^2/day.

107.00 Hemic and Lymphatic System

A. *Sickle cell disease* refers to a chronic hemolytic anemia associated with sickle cell hemoglobin, either hemozygous or in combination with thalassemia or with another abnormal hemoglobin (such as C or F).

Appropriate hematologic evidence for sickle cell disease, such as hemoglobin electrophoresis must be included. Vaso-occlusive, hemolytic, or aplastic episodes should be documented by description of severity, frequency, and duration.

Disability due to sickle cell disease may be solely the result of a severe, persistent anemia or may be due to the combination of chronic progressive or episodic manifestations in the presence of a less severe anemia.

Major visceral episodes causing disability include meningitis, osteomyelitis, pulmonary infections or infarctions, cerebrovascular accidents, congestive heart failure, genitourinary involvement, etc.

B. *Coagulation defects.* Chronic inherited coagulation disorders must be documented by appropriate laboratory evidence such as abnormal thromboplastin generation, coagulation time, or factor assay.

C. *Acute leukemia.* Initial diagnosis of acute leukemia must be based upon definitive bone marrow pathologic evidence. Recurrent disease may be documented by peripheral blood, bone marrow, or cerebrospinal fluid examination. The pathology report must be included.

The designated duration of disability implicit in the finding of a listed impairment is contained in 107.11. Following the designated time period, a documented diagnosis itself is no longer sufficient to establish a severe impairment. The severity of any remaining impairment must be evaluated on the basis of the medical evidence.

107.01 Category of impairments, hemic and lymphatic

107.03 *Hemolytic anemia (due to any cause).* Manifested by persistence of hematocrit of 26 percent or less despite prescribed therapy, and reticulocyte count of 4 percent or greater.

107.05 *Sickle cell disease.* With:

A. Recent, recurrent, severe vaso-occlusive crises (musculoskeletal, vertebral, abdominal); or

B. A major visceral complication in the 12 months prior to application; or

C. A hyperhemolytic or aplastic crisis within 12 months prior to application; or

D. Chronic, severe anemia with persistence of hematocrit of 26 percent or less; or

E. Congestive heart failure, cerebrovascular damage, or emotional disorder as described under the criteria in 104.02, 111.00ff, or 112.00ff.

107.06 *Chronic idiopathic thrombocytopenic purpura of childhood* with purpura and thrombocytopenia of 40,000 platelets/cu. mm. or less despite prescribed therapy of recurrent upon withdrawal of treatment.

107.08 *Inherited coagulation disorder.* With:

A. Repeated spontaneous or inappropriate bleeding; or

B. Hemarthrosis with joint deformity.

107.11 *Acute leukemia.* Consider under a disability:

A. For 2½ years from the time of initial diagnosis; or

B. For 2½ years from the time of recurrence of active disease.

109.00 Endocrine System

A. *Cause of disability.* Disability is caused by a disturbance in the regulation of the secretion or metabolism of one or more hormones which are not adequately controlled by therapy. Such disturbances or abnormalities usually respond to treatment. To constitute a listed impairment these must be shown to have persisted or be expected to persist despite prescribed therapy for a continuous period of at least 12 months.

B. *Growth.* Normal growth is usually a sensitive indicator of health as well as of adequate therapy in children. Impairment of growth may be disabling in itself or may be an indicator of a severe disorder involving the endocrine system or other body systems. Where involvement of other organ systems has occurred as a result of a primary endocrine disorder, these impairments should be evaluated according to the criteria under the appropriate sections.

C. *Documentation.* Description of characteristic history, physical findings, and diagnostic laboratory data must be included. Results of laboratory tests will be considered abnormal if outside the normal range or greater than two standard deviations from the mean of the testing laboratory. Reports in the file should contain the information provided by the testing laboratory as to their normal values for that test.

D. *Hyperfunction of the adrenal cortex.* Evidence of growth retardation must be documented as described in 100.00. Elevated blood or urinary free cortisol levels are not acceptable in lieu of urinary 17-hydroxycorticosteroid excretion for the diagnosis of adrenal cortical hyperfunction.

E. *Adrenal cortical insufficiency.* Documentation must include persistent low plasma cortisol or low urinary 17-hydroxycorticosteroids or 17-ketogenic steroids and evidence of unresponsiveness to ACTH stimulation.

109.01 Category of impairments, endocrine

109.02 *Thyroid Disorders.*

A. Hyperthyroidism (as documented in 109.00C). With clinical manifestations despite prescribed therapy, and one of the following:

1. Elevated serum thyroxine (T_4) and either elevated free T_4 or resin T_3 uptake; or

2. Elevated thyroid uptake of radioiodine; or

3. Elevated serum triiodothyronine (T_3).

B. *Hypothyroidism.* With one of the following, despite prescribed therapy:

1. IQ of 69 or less; or

2. Growth impairment as described under the criteria in 100.02 A and B; or

3. Precocious puberty.

109.03 *Hyperparathyroidism (as documented in 109.00C).* With:

A. Repeated elevated total or ionized serum; or

B. Elevated serum parathyroid hormone.

109.04 *Hypoparathyroidism or Pseudohypoparathyroidism.* With:

A. Severe recurrent tetany or convulsions which are unresponsive to prescribed therapy; or

B. Growth retardation as described under criteria in 100.02 A and B.

109.05 *Diabetes insipidus, documented by pathologic hyertonic saline or water deprivation test.* And one of the following:

A. Intracranial space-occupying lesion, before or after surgery; or

B. Unresponsiveness to Pitressin; or

C. Growth retardation as described under the criteria in 100.02 A and B; or

D. Unresponsive hypothalmic thirst center, with chronic or recurrent hypernatremia; or

E. Decreased visual fields attributable to a pituitary lesion.

109.06 *Hyperfunction of the adrenal cortex (Primary or secondary).* With:

A. Elevated urinary 17-hyroxycorticosteroids (or 17-ketogenic steroids) as documented in 109.00 C and D; and

B. Unresponsiveness to low-dose dexamethasone suppression.

109.07 *Adrenal cortical insufficiency (as documented in 109.00 C and E)* with recent, recurrent episodes of circulatory collapse.

109.08 *Juvenile diabetes mellitus (as documented in 109.00C) requiring parenteral insulin.* And one of the following, despite prescribed therapy:

A. Recent, recurrent hospitalizations with acidosis; or

B. Recent, recurrent episodes of hypoglycemia; or

C. Growth retardation as described under the criteria in 100.02 A or B; or

D. Impaired renal function as described under the criteria in 106.00ff.

109.09 *Iatrogenic hypercorticoid state.* With chronic glucocorticoid therapy resulting in one of the following:

A. Osteoporosis; or

B. Growth retardation as described under the criteria in 100.02 A or B; or

C. Diabetes mellitus as described under the criteria in 109.08; or

D. Myopathy as described under the criteria in 111.06; or

E. Emotional disorder as described under the criteria in 112.00ff.

109.10 *Pituitary dwarfism (with documented growth hormone deficiency).* And growth impairment as described under the criteria in 100.02B.

109.11 *Adrenogenital syndrome.* With:

A. Recent, recurrent self-losing episodes despite prescribed therapy; or

B. Inadequate replacement therapy manifested by accelerated bone age and virilization, or

C. Growth impairment as described under the criteria in 100.02 A or B.

109.12 *Hypoglycemia (as documented in 109.00C).* With recent, recurrent hypoglycemic episodes producing convulsion or coma.

109.13 *Gonadal Dysgenesis (Turner's Syndrome), chromosomally proven.* Evaluate the resulting impairment under the criteria for the appropriate body system.

110.00 Multiple Body Systems

A. *Catastrophic congenital abnormalities or disease.* This section refers only to very serious congenital disorders, diagnosed in the newborn or infant child.

B. *Immune deficiency diseases.* Documentation of immune deficiency disease must be submitted, and may include quantitative immunoglobulins, skin tests for delayed hypersensitivity, lymphocyte stimulative tests, and measurements of cellular immunity mediators.

110.01 Category of impairments, multiple body systems

110.08 *Catastrophic congenital abnormalities or disease.* With:

A. A positive diagnosis (such as anencephaly, trisomy D or E, cyclopia, etc.), generally regarded as being incompatible with extrauterine life; or

B. A positive diagnosis (such as cri du chat, Tay-Sachs Disease) wherein attainment of the growth and development level of 2 years is not expected to occur.

110.09 *Immune deficiency disease.*

A. *Hypogammaglobulinemia or dysgammaglobulinemia.* With:

1. Recent, recurrent severe infections; or

2. A complication such as growth retardation, chronic lung disease, collagen disorder, or tumors.

E. *Thymic dysplastic syndromes* (such as Swiss, diGeorge).

111.00 Neurological

A. *Seizure disorder* must be substantiated by at least one detailed description of a typical seizure. Report of recent documentation should include an electroencephalogram and neurological examination. Sleep EEG is preferable, especially with temporal lobe seizures. Frequency of attacks and any associated phenomena should also be substantiated.

Young children may have convulsions in association with febrile illnesses. Proper use of 111.02 and 111.03 requires that a seizure disorder be established. Although this does not exclude consideration of seizures occurring during febrile illnesses, it does require documentation of seizures during nonfebrile periods.

There is an expected delay in control of seizures when treatment is started, particularly when changes in the treatment regimen are necessary. Therefore, a seizure disorder should not be considered to meet the requirements of 111.02 of 111.03 unless it is shown that seizures have persisted more then three months after prescribed therapy began.

B. *Minor motor seizures.* Classical petit mal seizures must be documented by characteristic EEG pattern, plus information as to age at onset and frequency of clinical seizures. Myoclonic seizures, whether of the typical infantile or Lennox-gastaut variety after infancy, must also be documented by the characteristic EEG pattern plus information as to age at onset and frequency of seizures.

C. *Motor dysfunction.* As described in 111.06, motor dysfunction may be due to any neurological disorder. It may be due to static or progressive conditions involving any area of the nervous system and producing any type of neurological impairment. This may include weakness, spasticity, lack of coordination, ataxia, tremor, athetosis, or sensory loss. Documentation of motor dysfunction must include neurologic findings and description of type of neurologic abnormality (e.g., spasticity, weakness), as well as a description of the child's functional impairment (i.e., what the child is unable to do because of the abnormality). Where a diagnosis has been made, evidence should be included for substantiation of the diagnosis

(e.g., blood chemistries and muscle biopsy reports), wherever applicable.

D. *Impairment of communication.* The documentation should include a description of a recent comprehensive evaluation, including all areas of affective and effective communication, performed by a qualified professional.

111.01 Category of impairment, neurological

111.02 *Major motor seizure disorder.*

A. *Major motor seizures.* In a child with an established seizure disorder, the occurrence of more than one major motor seizure per month despite at least three months of prescribed treatment. With:

1. Daytime episodes (loss of consciousness and convulsive seizures); or

2. Nocturnal episodes manifesting residuals which interfere with activity during the day.

B. *Major motor seizures.* In a child with an established seizure disorder, the occurrence of a least one major motor seizure in the year prior to application despite at least three months of prescribed treatment. And one of the following:

1. IQ of 69 or less; or

2. Significant interference with communication due to speech, hearing, or visual defect; or

3. Significant emotional disorder; or

4. Where significant adverse effects of medication interfere with major daily activities.

111.03 *Minor motor seizure disorder.* In a child with an established seizure disorder, the occurrence of more than one minor motor seizure per week, with alteration of awareness or loss of consciousness, despite at least three months of prescribed treatment.

111.05 *Brain tumors. A. Malignant* gliomas (astrocytoma—Grades III and IV, glioblastoma multiforme), medulloblastoma, ependymoblastoma, primary sarcoma or brain stem gliomas; or

B. Evaluate other brain tumors under the criteria for the resulting neurological impairment.

111.06 *Motor dysfunction (due to any neurological disorder).* Persistent disorganization or deficit of motor function for age involving two extremities, which (despite prescribed therapy) interferes with age-appropriate major daily activities and results in disruption of:

A. Fine and gross movements; or

B. Gait and station.

111.07 *Cerebral palsy.* With: A. Motor dysfunction meeting the requirements of 111.06 or 111.03; or

B. Less severe motor dysfunction (but more than slight) and one of the following:

1. IQ of 69 or less; or

2. Seizure disorder, with at least one major motor seizure in the year prior to application; or

3. Significant interference with communication due to speech, hearing or visual defect; or

4. Significant emotional disorder.

111.08 *Meningomyelocele (and related disorders).* With one of the following despite prescribed treatment:

A. Motor dysfunction meeting the requirements of § 111.03 or § 111.06; or

B. Less severe motor dysfunction (but more than slight), and:

1. Urinary or fecal incontinence when inappropriate for age; or

2. IQ of 69 or less; or

C. Four extremity involvement; or

D. Noncompensated hydrocephalus producing interference with mental or motor developmental progression.

111.09 *Communication impairment, associated with documented neurological disorder.* And one of the following:

A. Documented speech deficit which significantly affects the clarity and content of the speech; or

B. Documented comprehension deficit resulting in ineffective verbal communication for age; or

C. Impairment of hearing as described under the criteria in 102.08.

112.00 Mental and Emotional Disorders

A. *Introduction.* This section is intended primarily to describe mental and emotional disorders of young children. The criteria describing medically determinable impairments in adults should be used where they clearly appear to be more appropriate.

B. *Mental retardation. General.* As with any other impairment, the necessary evidence consists of symptoms, signs, and laboratory findings which provide medically demonstrable evidence of impairment severity. Standardized intelligence test results are essential to the adjudication of all cases of mental retardation that are not clearly covered under the provisions of 112.05A. Developmental milestone criteria may be the sole basis for adjudication only in cases where the child's young age and/or condition preclude formal standardized testing by a psychologist or psychiatrist experienced in testing children.

Measures of intellectual functioning. Standardized intelligence tests, such as the Wechsler Preschool and Primary Scale of Intelligence (WPPSI), the Wechsler Intelligence Scale for Children—Revised (WISC–R), the Revised Stanford-Binet Scale, and the McCarthey Scales of Children's Abilities, should be used wherever possible. Key data such as subtest scores should also be included in the report. Tests should be administered by a qualified and experienced psychologist or psychiatrist, and any discrepancies between formal tests results and the child's customary behavior and daily activities should be duly noted and resolved.

Developmental milestone criteria. In the event that a child's young age and/or condition preclude formal testing by a psychologist or psychiatrist experienced in testing children, a comprehensive evaluation covering the full range of developmental activities should be performed. This should consist of a detailed account of the child's daily activities together with direct observations by a professional person; the latter should include indices or manifestations of social, intellectual, adaptive, verbal, motor (posture, locomotion, manipulation), language, emotional, and self-care development for age. The above should then be related by the evaluating or treating physician to established developmental norms of the kind found in any widely used standard pediatrics test.

c. *Profound combined mental-neurological-musculoskeletal impairments.* There are children with profound and irreversible brain damage resulting in total incapacitation. Such children may meet criteria in either neurological, musculoskeletal, and/or mental sections; they should be adjudicated under the criteria most completey substantiated by the medical evidence submitted. Frequently, the most appropriate criteria will be found under the mental impairment section.

112.01 Category of impairments, mental and emotional

112.02 *Chronic brain syndrome.* With arrest of developmental progression for at least six months or loss of previously acquired abilities.

112.03 *Psychosis of infancy and childhood.* Documented by psychiatric evaluation and supported, if necessary, by the results of appropriate standardized psychological tests and manifested by marked restriction in the performance of daily age-appropriate activities; constriction of age-appropriate interests; deficiency of age-approrpiate self-care skills; and impaired ability to relate to others; together with persistence of one (or more) of the following:

A. Significant withdrawal or detachment; or

B. Impaired sense of reality; or

C. Bizarre behavior patterns; or

D. Strong need for maintenance of sameness, with intense anxiety, fear, or anger when change is introduced; or

E. Panic at threat of separation from parent.

112.04 *Functional nonpsychotic disorders.* Documented by psychiatric evaluation and supported, if necessary, by the results of appropriate standardized psychological tests and manifested by marked restriction in the performance of daily age-appropriate activities; constriction of age-appropriate interests; deficiency of age-appropriate self-care skills; and impaired ability to relate to others; together with persistence of one (or more) of the following:

A. Psychophysiological disorder (e.g., diarrhea, asthma); or

B. Anxiety; or

C. Depression; or

D. Phobic, obsessive, or compulsive behavior; or

E. Hypochondriasis; or

F. Hysteria; or

G. Asocial or antisocial behavior.

112.05 *Mental retardation.*—A. Achievement of only those developmental milestones generally acquired by children no more than one-half the child's chronological age; or

B. IQ of 59 or less; or

C. IQ of 60–69, inclusive, and a physical or other mental impairment imposing additional and significant restriction of function or developmental progression.

113.00 Neoplastic Disease, Malignant

A. *Introduction.* Determination of disability in the growing and developing child with a malignant neoplastic disease is based upon the combined effects of:

1. The pathophysiology, histology, and natural history of the tumor; and

2. The effects of the currently employed aggressive multimodal therapeutic regimens.

Combinations of surgery, radiation, and chemotherapy or prolonged therapeutic schedules impart significant additional morbidity to the child during the period of greatest risk from the tumor itself. This period of highest risk and greatest therapeutically-induced morbidity defines the limits of disability for most of childhood neoplastic disease.

B. *Documentation.* The diagnosis of neoplasm should be established on the basis of symptoms, signs, and laboratory findings. The site of the primary, recurrent, and metastatic lesion must be specified in all cases of malignant neoplastic diseases. If an operative procedure has been performed, the evidence should include a copy of the operative note and the report of the gross and microscopic examination of the surgical specimen, along with all pertinent laboratory and X-ray reports. The evidence should also include a recent report directed especially at describing whether there is evidence of local or regional recurrence, soft part or skeletal metastases, and significant post therapeutic residuals.

C. *Malignant solid tumors,* as listed under 113.03, include the histiocytosis syndromes except for solitary eosinophilic granuloma. Thus, 113.03 should not be used for evaluating brain tumors (see 111.05) or thyroid tumors, which must be evaluated on the basis of whether they are controlled by prescribed therapy.

D. *Duration of disability* from malignant neoplastic tumors is included in 113.02 and 113.03. Following the time periods designated in these sections, a documented diagnosis itself is no longer sufficient to establish a severe impairment. The severity of a remaining impairment must be evaluated on the basis of the medical evidence.

113.01 Category of Impairments, Neoplastic Diseases—Malignant

113.02 *Lymphoreticular malignant neoplasms.*

A. Hodgkin's disease with progressive disease not controlled by prescribed therapy; or

B. Non-Hodgkin's lymphoma. Consider under a disability:

1. For 2½ years from time of initial diagnosis; or

2. For 2½ years from time of recurrence of active disease.

113.03 *Malignant solid tumors.* Consider under a diability:

A. For 2 years from the time of initial diagnosis; or

B. For 2 years from the time of recurrence of active disease.

113.04 *Neuroblastoma.* With one of the following:

A. Extension across the midline; or

B. Distant metastases; or

C. Recurrence; or

D. Onset at age 1 year or older.

113.05 *Retinoblastoma.* With one of the following:

A. Bilateral involvement; or

B. Metastases; or

C. Extension beyond the orbit; or

D. Recurrence.

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